AMATEUR RADIO
SEPTEMBER, 1957

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WIRELESS INSTITUTE OF AUSTRALIA

Registered at G.P.O., Melbourne, for transmission by post as a periodical

AMATEUR RADIO

SEPTEMBER — — — 1957
Vol. 25 No. 9

MSS. and Magazine Correspondence should be forwarded to the Editor, "Amateur Radio," C.O.R. House, 191 Queen Street, Melbourne, C.1, on or before the 8th of each month.

Subscription rate in Australia is 12/- per annum, in advance (post paid) and A15/- in all other countries.

Wireless Institute of Australia (Victorian Division) Rooms' Phone Number is MY 1087.

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI: Sundays, 1100 hours EST, 7146 Kc.; 2000 hours EST, 144 Mc. No frequency checks available from VK2WI. Intrastate working frequency, 7050 Kc.

VK3WI: Sundays, 1130 hours EST, simultaneously on 3573 and 7146 Kc., 57.5 and 146.25 Mc. Intrastate working frequency 7135 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI: Sundays, 0900 hours EST, simultaneously on 3560 and 14342 Kc. 3560 Kc. channel is used from 0915 hours to 1015 hours each Sunday for the W.I.A. Country hook-up. No frequency checks available.

VK5WI: Sundays, 1000 hours SAST, on 7146 Kc. Frequency checks are given by VK5MD and VK5WI by arrangements on all bands to 56 Mc.

VK6WI: Sundays, 0930 hours WAST, on 7146 Kc. No frequency checks available.

VK7WI: Sundays, at 1000 hours EST, on 7146 Kc. and 3672 Kc. No frequency checks are available.

VK9WI: Sundays, 1000 hours EST, simultaneously on 3.5, 7, 14 and 144 Mc. Individual frequency checks of Amateur Stations given when VK9WI is on the air.

AMATEUR RADIO

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

Published by the Wireless Institute of Australia,
C.O.R. House, 191 Queen Street,
Melbourne, C.1.

EDITORIAL

★

BOOKS

Books, children of the brain.—(Swift, "The Tale of a Tub")

Accustomed to being told of the modern miracles of Television, Atomic Power and Space Rockets, the average person is inclined to forget some other wonders which have been close at hand for centuries. In this sphere the book is an interesting example.

By means of a book, we are able to know the thoughts of a person long dead. By means of the written word and the printed page, we are able to preserve for posterity much of that which is worth while in our own time.

But the book has an immediate function as well as being a preserver of knowledge. The book is a teacher.

In spite of modern facilities, it is not always possible or convenient for us to attend the classes and lectures of the men with knowledge to offer. But the words of those men on the printed page can speak to us whenever we are willing or have time to listen.

The world of electronics is an everchanging one. Those who can speak authoritatively on a particular subject soon place their thoughts in book form and those books soon find their way into libraries.

It is most important that the modern Amateur keeps abreast of his hobby and here at least is one way. Use the Divisional Library, the Public Library, and above all make sure that your own personal book-shelf is well stocked.

One word from the research engineer, a circuit drawn by an expert can save hours of frustration.

The solution to many a thorny problem is often a simple matter on which our memory has played us false. We only require that tiny spark and all is simplified.

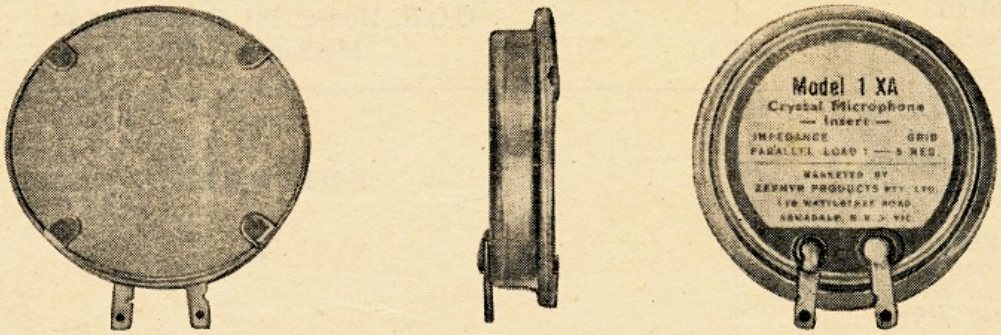
That tiny spark, the answer, is found by opening a book.

FEDERAL EXECUTIVE.

THE CONTENTS

MODEL "1XA" CRYSTAL MICROPHONE INSERT

AUSTRALIAN MADE — — FOR AUSTRALIAN CONDITIONS



FITTED WITH PLATED REAR SHIELD TO ELIMINATE HUM PICK-UP

- **Patented crystal unit guarantees outstanding efficiency and performance.**
- **Protected against ingress of moisture with approved moisture sealed crystal element.**
- **Small — compact — lightweight — durable.**
- **Will not blast from close speaking.**
- **Precision engineering ensures realistic reproduction and high output with long life and dependable operation.**
- **The only unit available with a genuine sintered metal filter.**
- **Good high frequency response ensures excellcellent speech reproduction.**
- **Aluminium diaphragm mechanically protected and frequency controlled by "Zephyrfil" filter.**
- **Australian made throughout.**
- **Only carefully selected cements used throughout, to suit Australian climatic conditions.**

TECHNICAL DETAILS

Rochelle salt crystal microphones are perhaps the most widely used for all types of service where quality speech and music reproduction at high output levels is a requirement. They are dependable in performance and when fitted with the appropriate "Zephyrfil" filter, their frequency response may be adjusted to suit any application or requirement.

This crystal microphone requires to be terminated with a high value parallel load of the order of 1 to 5 megohms for best results.

The mass of the moving parts is small, hence the sensitivity is high and a high efficiency is achieved.

Light gauge solder lugs are provided so that excessive heat in soldering will not be transmitted to the crystal element.

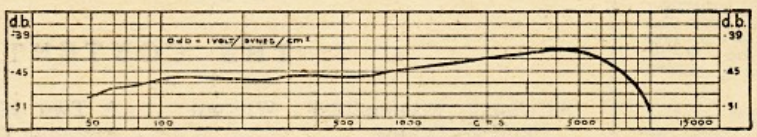
When mounted in a microphone cage, it is recommended that the insert be suspended in rubber, to eliminate shock and vibration.

One of the connecting lugs is directly connected to the case and care should be taken to solder the metal shield of the microphone cable to this solder lug, keeping the unscreened portion of the centre conductor as short as possible to eliminate hum pick-up.

All crystal elements are mounted on high grade suspension pillars, being fixed thereto with a good quality cement, thus ensuring stability and long life.

Case 1½" diameter (rear), ⅜" thickness, 1-13/16" overall diameter (front) with filter fitted.

Frequency Response = 60-6,500 c.p.s.
Output Level = —45 db (0 db = 1 volt/dyne/cm²)
Impedance = Model 1XA Grid 1 — 5 megohms.



Approximate Frequency Response Curve

AVAILABLE FROM ALL LEADING TRADE HOUSES

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All-Band Preamplifier Without Band-Switching

BY L. H. DUNCAN,* VK5AX

MUCH has been written from time to time about the advantages of using a pre-selector or R-9'er in front of the station receiver, but not all Hams realise that these advantages are very real.

The pre-amplifier will improve the overall gain of any receiver considerably and, what is more important, it will give the whole set a greatly improved signal-to-noise ratio, and will enable weak DX stations to be copied that before could only just be heard.

Most of us use an aerial matching device between the transmitter and aerial as a matter of course, but in the usual Ham shack very little consideration is given to the problem of accurately matching the receiver to the aerial. On this score alone the text books promise a gain of up to 30 db.—five S points.

Having seen the light and decided to build one of these magical devices, we are immediately faced with the problem of how to cover all the popular bands and it is at this stage that the interest generally wanes. Therefore, many will be interested in the following design which covers all bands from 80 through 10 metres without any form of band-switching and uses only one coil!

Reference to the circuit will show that an all-band tuning arrangement has been used in the grid circuit of a 6AC7 or similar tube which is aperiodically coupled to another 6AC7 wired as a cathode follower. A most efficient form of output coupling which matches the impedance of the aerial terminal of the set to which it is attached without causing any loss of signal voltage. The output lead should be reasonably short and shielded.

The tuning condenser is a broadcast two-gang of almost any type. Naturally the better the insulation, the better the results. Because of the large capacity range, the size of the coil is not at all critical. Too many turns and you won't cover ten metres—too little and you miss out on 80 metres. Twenty turns of about 20 gauge wire on a 1" former has proved to be about right. The coil is centre-tapped. The aerial winding, of six turns, is wound on at the earth end of the tuning coil.

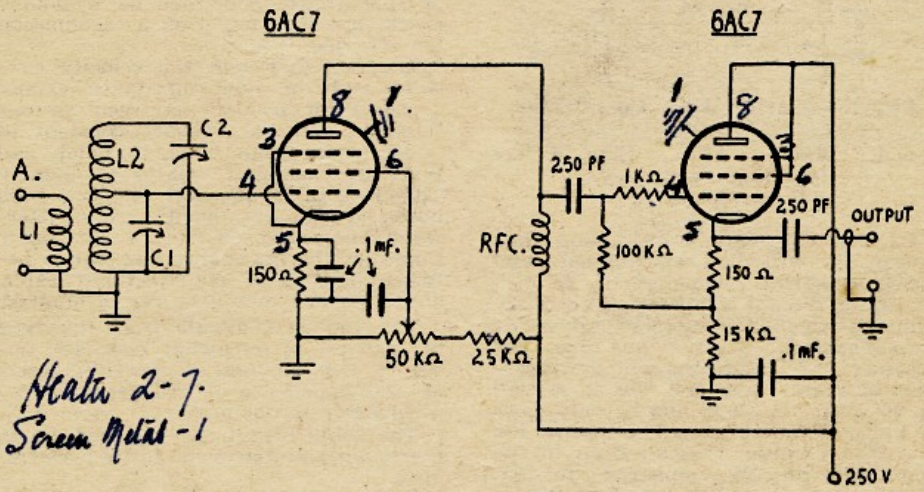
Screen voltage of the pentode 6AC7 is variable so that the gain of the tube may be run as high as possible without instability. (It is also of help in reducing cross-modulation when the 100-watter next door starts up!)

In the interests of stable operation, it is advisable to isolate the grid and plate circuits of the first tube as much as possible by placing a shield across the socket. If is also an advantage to mount the coil and condenser above the chassis and to make connection to the 6AC7 grid via a small feed-through insulator—but don't get the idea that the unit is in any way "cranky." These are just precautions one would take with any high gain r.f. stage. The rest of the circuit is straight forward, but if you use any other tube for the cathode follower, use one in which the suppressor is not connected internally to the cathode.

Several of these units have been built up over the last six months and have greatly improved the performance of the receivers, including a "640", BC342, Hallicrafter, and 75A3.

As usual with these all-band tanks, the bands do not appear in orderly progression across the dial, but no confusion should result from this. While proving the design, slight trouble with self-oscillation at one frequency near 7 Mc. was encountered. This was traced to an undesired resonance in the r.f. choke in the plate circuit of the r.f. stage and changing this to another type effected the cure.

Any queries will be gladly answered by letter. Good luck, and better listening.



An All-Band Pre-Amplifier Without Switching

C1/C2—Broadcast two-gang.
L1—6 turns.
L2—20 turns, 1 inch former, centre-tapped.

* 16 King Street, Gawler, S.A.

VALVE DATA

12AU7

MEDIUM-MU TWIN TRIODE

The Radiotron 12AU7 is a miniature 9-pin valve containing two similar medium-mu triodes in one envelope.

Either of the triodes may be used in a television receiver as a vertical or horizontal deflection oscillator or as a synchronising pulse separator and amplifier.

Base: 9-pin miniature.

Socket connections:

Pin 1—Plate of Unit No. 2.
Pin 2—Grid of Unit No. 2.
Pin 3—Cathode of Unit No. 2.
Pin 4—Heater.
Pin 5—Heater.
Pin 6—Plate of Unit No. 1.
Pin 7—Grid of Unit No. 1.
Pin 8—Cathode of Unit No. 1.
Pin 9—Heater centre-tap.

Electrical Data

	Series	Parallel	
Heater voltage	12.6	6.3	volts
Heater current	0.15	0.3	amp.

CLASS A1 AMPLIFIER (Each Unit)

Maximum Ratings:

Plate voltage	300*	volts
Plate dissipation	2.75*	watts
Cathode current	20*	Ma.
Grid voltage:		
Negative bias value	50*	volts
Positive bias value	0*	volts
Peak heater-cathode voltage:		
Heater negative with respect to cathode	200*	volts
Heater positive with respect to cathode	200*†	volts

Characteristics:

Plate voltage	100	250	volts
Grid voltage	0	—8.5	volts
Amplification factor	20	17	
Plate resist. (approx.)	6500	7700	ohms
Transconductance	3100	2200	μmhos
Grid bias (approx.) for plate current of 10 μA	—	—24	volts
Plate current	11.8	10.5	Ma.

OSCILLATOR
(for operation in a 625-line, 25-frame system)

Maximum Ratings (each unit):

D.c. plate voltage	300*	300*	volts
Peak negative-pulse grid voltage	400*	600*	volts
Cathode current:			
Peak	60*	300*	Ma.
Average	20*	20*	Ma.
Plate dissipation	2.75*	2.75*	watts
Peak heater-cathode voltage:			
Heater neg. with respect to cathode	200*	200*	volts
Heater pos. with respect to cathode	200*†	200*†	volts

Maximum Circuit Value:

Grid-circuit resistance, 2.2* megohms

* Maximum.
† The d.c. component must not exceed 100 volts.

90° R.F. Phase Shift Networks

PART TWO

BY N. L. SOUTHWELL,* VK2ZF

QUARTER-WAVE CO-AX LINE NETWORK

In Fig. 7 is shown what is probably the simplest, and at the same time, the most bulky 90° p.s.n., a quarter-wavelength of co-axial line.

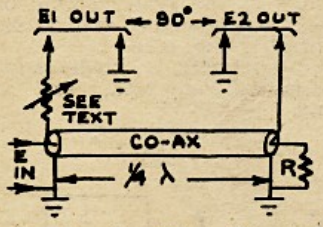


Fig. 7.—Quarter Wave Co-ax Line Network.

Quarter Wave of Co-ax Line at the Operating Frequency.
R = Co-ax Z.

Calling to mind transmission line theory, it will be remembered that points a quarter wavelength apart on a line differ in phase by 90°, also when a line is terminated in its characteristic impedance, the s.w.r. along the line becomes 1 : 1. Hence the voltages measured at points quarter-wave apart will be 90° apart in phase and be very close to the same amplitude. The loss in the line would cause a small drop in the amplitude of E2 compared to E1. Should it be found necessary to compensate for the amplitude difference, a small carbon pot. can be included in the circuit where indicated.

To efficiently adjust the network, a g.d.o. is required and also some means of measuring r.f. resistance, such as a bridge or an antennascope. Alternatively, a v.t.v.m. could be used in place of the bridge or antennascope. The writer used a Maxwell Bridge which is simple and quite satisfactory.

The line is grid dipped to the operating frequency, or slightly higher, by means of the g.d.o., whilst the line is terminated by the input capacity of the bal. mod., to be fed from the line. Do not use any resistive termination on the line while grid dipping.

The g.d.o. and the bridge are then used to determine the actual characteristic impedance of the cable used. To do this some non-inductive carbon resistors are required, their values can be determined by the bridge.

If using a v.t.v.m. the actual value of the resistors will be unimportant, but they should be approximately that of the cable impedance. The g.d.o. is set to the frequency used above and coupled to the line. The terminating resistance at the far end is varied until the voltage measured at both ends of the line is the same.

The termination then in use is the correct one for the line.

Using the bridge and the g.d.o. set to the previous frequency, the line is terminated at the far end by one of the available resistors and a reading obtained on the bridge. It is more than probable this reading will differ from that of the terminating resistor. The line impedance can be found from the formula:

$$Z1 = \sqrt{Zb \times Zt}$$

where—
Z1 = line impedance in ohms.
Zb = reading obtained on bridge in ohms.
Zt = value of termination in ohms.

From this point it is a matter of using the bridge to build up a termination of that value, and then as a double check, test it, using it as a termination for the line.

The fact that both the velocity constant and the line impedance cannot be taken for granted may seem strange to some, but the velocity constant of co-ax varies from batch to batch and from one make of line to another, a difference in length of 1 foot has been observed in the length of quarter-wave lines used on the 14 Mc. band. Likewise, the impedance also varies between batches of manufactured cable, and from one manufacturer to another.

The voltage available from this type of network is somewhat restricted unless a fair amount of power is used, as the impedance of all types of co-axial cable is not great.

The cable length may be tied up in a coil without detriment to its performance.

Both ends of the sheath should be grounded and the end of the co-ax should be brought out as close as possible to the balanced modulator feed points.

If the co-ax is cut a little on the short side, it is possible to lengthen the line electrically by means of a small trimmer condenser connected across the output of the line and in parallel with R in Fig. 7. High stray capacity in the equipment may necessitate a slight shortening of the line, as stray capacity across the terminating resistor would have the effect of lengthening the line.

DELAY LINE TYPE OF NETWORK

Fig. 8 shows yet another circuit of an r.f. p.s.n. This type of network is a distributed constant delay line.

These lines are being manufactured in the U.S.A. commercially in values up to around 2,000 ohms, and a few s.s.b. stations in America have used them on 3.5 Mc.

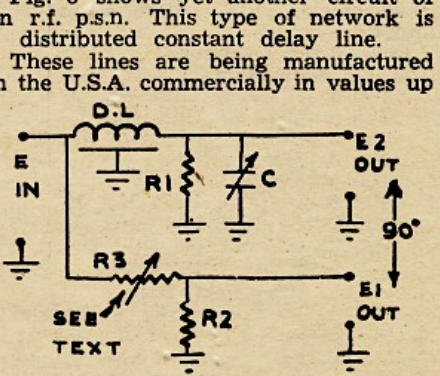


Fig. 8.—Delay Line Type of Network.

D.L = Delay Line.
R1 = R2 = Delay Line Z.
R3 = Variable resistance to equalise E1 and E2 amplitudes.
C = Small trimmer for vernier adjustment of phase shift.

The lines are widely used and well known in commercial radio circles, but Amateurs have never bothered about them.

The commercial article is made up as follows: A fine gauge insulated wire is wound onto a piece of tubing which serves as a former. The whole is then wrapped with insulating tape of high quality which later becomes the dielectric of the line. Over the tape is woven a braided screen of insulated wires, forming the outer conductor of the line, the whole is then covered with a layer of p.v.c. for protection.

The physical sizes of the elements making up the line determine its impedance.

The time delay required to give a 90° phase shift at any given frequency is obtained from the formula:

$$T = \frac{10^5}{4F}$$

where—
T = time delay in millimicroseconds.
F = operating freq. in megacycles.

The manufacturers of commercial delay lines quote a definite time delay figure for a given physical length of line and, after calculating the delay time required from the above formula, it is a simple matter to determine the length of line required. It works out to a matter of inches at the normal Amateur band frequencies, for lines having a phase shift of 90°.

The line is cut to have slightly less delay than is required, and the delay time is increased over a small range by a small trimmer condenser placed across the end of the line, as indicated by C in Fig. 8. This condenser acts in the same manner as the trimmer condenser mentioned in connection with Fig. 7, to lengthen the electrical length of the line, and hence the delay time. This enables the delay time to be adjusted to the exact value required.

There is a loss of energy in the network, and to enable the amplitudes of E1 and E2 to be balanced, a voltage divider comprising a carbon pot. and a non-inductive resistor are used in the E1 voltage feed circuit. These components are shown as R3 and R2 respectively in Fig. 8.

Alternatively the E1 feed circuit may have the carbon pot. (R3) inserted in series with the lead and R2 dispensed with, both methods have been satisfactorily used. To obtain the best results from this network, the effect on the phase shift of all components and circuit strays, between the common r.f. voltage source and the two bal. mods., additional to the delay line, should be taken into account.

Distributed constant type delay lines are relatively easy to make for use on Amateur frequency bands. The writer is using one at the present time on 14 Mc.

The subject of delay lines is too involved to be gone into in this article, but the experimentally inclined may be

* 90 Dutton Street, Yagoona, N.S.W.

interested in the following brief description and information regarding some of the lines used.

The lines were constructed from short lengths of co-ax cable as follows:

Slit the outer p.v.c. sheath carefully lengthwise with a knife, and slip it off. Compress the outer metal braiding of the co-ax which is then exposed, from both ends towards the centre, this action causes the diameter of the braid to increase and loosen on the core of the cable. The metal braid is then slipped off the core and carefully placed on one side.

The centre conductor of the cable is not required, it can be withdrawn if such action is possible; if not, the ends of the conductor can be cut off flush with the ends of the cable poly. core, and its presence ignored.

The next step is to close wind a coil of fine wire on the poly. core of the co-ax cable for a length of several inches.

The start and finish of the winding can be held in place on the core with adhesive tape. The completed winding and the core are then given a good coating of clear lacquer. When the lacquer has almost dried a layer of empire cloth, cut to size, is wrapped around the winding and tied in place until the lacquer has completely dried. Then the ties can be taken off and the co-ax metal braiding previously removed is slipped back over the coil with its empire cloth covering. The braid is stretched to make sure it is firmly against the coil over the whole of its length and then securely taped in place.

It will be found that up to ½" of the original length of the braid will be lost due to the fact that the braid now fits over a core of larger size than previously. The loss in length is no cause for worry, as at least a ¼" or so is required at each end of the coil for the securing tape, placed there when the coil was wound. The braid should, however, cover the full length of the coil.

In operation, the braiding is grounded and the two ends of the coil are the input and output of the line.

The time delay per unit length of this type of line is less than that of the commercial lines because the outer braid is not composed of insulated wires woven together and grounded at the ends of the line.

Having constructed a line, one must find out (1) its impedance, (2) its electrical length or delay time.

The test equipment required is, again, a g.d.o. and a bridge or an antennascope, and some non-inductive resistors of various values up to around 600 ohms.

The electrical length of the line is found by coupling the line to the g.d.o. in the same manner as when grid dipping a quarter wavelength of co-ax, however in the case of co-ax we already have a fairly accurate idea how long the line is electrically, in this case, we initially have no idea. Tune the g.d.o. over a wide frequency range and jot down all the frequencies at which a dip is registered on the g.d.o. meter, due to the presence of the coupled line. These dips will occur at frequencies where the line is ¼, ¾, 1¼, 1¾ wavelengths, etc., long.

After four or five frequencies are listed, it will be apparent what the approximate frequency is where the line is quarter wave long. Check around this frequency to obtain the exact figure. If the line is too long, unwind turns from the line until the required frequency is obtained. If you find the line is too short the best plan is to wind up another longer one; joins in the line coil are not recommended. Naturally during the above process the far end of the line is open circuited. You may have to tune carefully for some of the dips indicated on the g.d.o. meter, as not all of the points required for an initial tabulation of the resonant frequencies give a large dip.

The impedance of the line is found in a similar manner to that described when dealing with the co-ax line network of Fig. 7. One word of warning though. Delay line can have a fair loss, and it will not be satisfactory to use a v.t.v.m. in place of a bridge to find the line impedance.

When the line is terminated in its correct impedance, tuning the g.d.o. over a wide frequency band will produce no change in the reading of the bridge.

A number of lines have been built with impedances ranging from 300 ohms to 115 ohms. Details of two of the lines are as follows:

90° electrical length	2.4 Mc.	25 Mc.
Impedance ..	800 ohms	315 ohms
Type of cable used	"PT29M"	"Uniradio 70"
Wire, B. & S. enamel close wound	36 gauge	36 gauge
Length of winding	5¾ inches	1½ inches

In case the cable types are unfamiliar, the outside diam. of the original co-ax cables were (approx.): PT29M, 7/16 inch; Uniradio 70, ¼ inch.

Remember, the capacity across the termination of the cable will tend to stretch the line electrically; on the 3.5 Mc. band, each 1 pF. of capacity increases the delay by about 1 millimicrosecond. From experiments conducted on 14 Mc. it would appear that a greater capacity than the above is required to effect a similar change in time delay there.

Now, having completed the description of the various types of r.f. p.s.n's. that have been used, we are in a position to consider more fully some of the factors, covered earlier, that determine the details of an r.f. p.s.n. for use in any given circuit.

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Modifying the AR7 Receiver

PART FIVE

BY G. M. BOWEN,* VK5XU

BAND SPREADING THE BAND E COIL BOX

For this procedure it will be necessary to refer to the previous article Part IV. In that article the coil connections, the placement of the trimmer and series condensers are shown by diagram so that there should be no trouble in identifying the components as they are referred to.

In coil box E the range has been restricted to a 2 : 1 ratio (from 12.5 to 25 Mc.) by including a variable capacitor of about 70 pF. in series with the main tuning gang to obtain electrical bandspread. As a general rule this arrangement does not alter the upper frequency range since the capacity of the series capacitor will be large compared to that of the tuning gang. At the lower frequency end the series capacitor, having the smaller capacitance, will have maximum effect on the frequency, raising it as the capacitance is decreased.

The series capacitor therefore reacts in this coil box in the same way as the padder does in the usual b.c. receiver alignment.

Hence by decreasing this capacitor value the band coverage can be adjusted for any number of degrees. At this stage, if you have not already worked on the 28 Mc. band coil box, you are advised to study carefully the alignment procedure set out in that text.

The 14 Mc. band, fortunately, comes on the higher half of the dial readings and it is not necessary to alter the coils. In some coil units, in order to bring the frequency of 14200 Kc. onto the 250 degree mark, it may be necessary to add a further capacitor across the trimmer. If so, choose a silvered-mica or a zero-coefficient ceramic, or if you really wish to do the job, play around with the correct negative coefficient ceramics in the oscillator section until no temperature change drift occurs. This modification is a worthwhile addition if you have the time—and the patience!—to spend many hours at the game. But remember, you can overdo the size of the capacitor and make the drift reverse, so check carefully against a standard that you know cannot drift —and I don't mean a crystal oscillator either! WWV or Radio Australia, or some equally good standard must be used.

The value of the additional capacitance required will depend upon the amount of bandspread required, and also of course on the type of air trimmers in the coil box for these vary in make and capacity. My AR7 drifts to a lower frequency as it warms up and about 5 Kc. compensation is required at 15 Mc.

In Band E the coils have no slugs, and it is better not to try to include them to lower the frequency. If an aerial trimmer capacitor has not already been included in the modifications it should be done, as described in an earlier article. The exclusion of this control was a bad mistake for it is virtually impossible to align four stages and maintain the same sensitivity over such a wide range of frequency. This is especially so where different antenna systems are used.

* 73 Portrush Road, Toorak Gardens, S.A.

ALIGNING PROCEDURE

Centre frequency 14.200 Mc. Start with the oscillator coil L4A. Short out the tuning gangs for aerial, r.f.1 and r.f.2; connect the Modulated Oscillator, or Signal Generator, to the grid of the converter valve with a 500K resistor to ground (having removed the grid cap connection to start with)—Mod. Oscillator on 14.2 Mc. with the crystal filter off, tune in signal which should appear at about 370 degrees.

Alter C8 to a smaller value and to hold the signal, the dial reading will have to be increased, i.e. more capacitance is added by the main tuning gang. Adjust C7 trimmer to return the dial reading to 370 degrees. **N.B.—C8 should be moved a very small amount each time.**

Gradually work back and forth now from C8 to C7 until the required bandspread is obtained, with the dial reading for 14.2 Mc. on 250 degrees. If C7 will no longer bring the upper frequency of 14.4 Mc. onto the dial reading, then open the box and add approximately 50 pF., reducing the capacity of C7 accordingly to approximately a quarter into mesh.

Put the box together again and without touching the dial adjust the trimmer C7 until 14.2 Mc. again appears at 250 degrees.

At this stage, it is a good plan to check that the oscillator is on the high side of the signal by swinging the mod. oscillator to at least 13 Mc. If no signals appear then you are correct.

Continue this jiggling process of C8 versus C7 until the coverage is approximately 200 degrees of bandspread for the 400 Kc. For general band coverage this seems to be adequate but if you are a c.w. man, then go the limit, for the low frequency end is the one which is most affected by this type of band-spreading system.

So much for the oscillator coil box. Remove each of the others and modify them to correspond approximately to the oscillator box. **Note carefully that the stud numbers are in a different sequence for each box, so refer to Part IV.**

The settings for C1 to C6 inclusive should be approximately that for C7 and C8. Fit the coil boxes together and the unit should be ready for aligning. **Don't touch the oscillator section.**

In coil box E the series capacitors are adjusted first, at the low frequency end of the range with the trimmers C1, C3 and C5 receiving second preference at the high end.

Set the mod. oscillator output to maximum and after removing all the shorting devices from the tuning gang, proceed to the usual two spot alignment process.

Mod. oscillator on 14.0 Mc.; adjust C6, C4 and C2 for maximum signal after picking up signal with main tuning; across to 14.4 Mc. and adjust C5, C3 and C1 (note the order of working towards the antenna input with the mod. oscillator output, from the r.f.2 box); back to 14.0 Mc. and so on gradually decreasing the signal from the mod. oscillator (see Part IV.).

Final adjustment of the capacitors should be made with the antenna noise input only.

If after a couple of weeks you have not succeeded with this modification, you won't need the receiver for you will have given Amateur Radio away together with the hair you have torn out!

So, good luck!

Next part will be on crystal filters and the AR7 filter in particular, so until then, I'm back to the pick and shovel.

COLUMBUS MARATHON CONTEST

To commemorate the famous voyage by Christopher Columbus, during which he discovered the American Continent, the Istituto Colombiano of Genoa is inaugurating an annual contest for Radio Amateurs. A gold medal and a certificate will be awarded to the Italian Radio Amateur who in the 70 days preceding 12th October of each year, establishes contact with the greatest number of Amateur Radio Stations outside Italy. A second gold medal and a certificate will be awarded to the non-Italian Amateur who contacts during the same period the greatest number of Italian stations including those in Trieste, Sicily and Sardinia. Briefly the rules of the Contest are as follows:

Licensed Amateurs in all parts of the world may participate. Foreign Amateurs are to work as many stations as possible in Italian territory.

For the purposes of the contest the frequency bands on which valid contacts can be made are divided into three groups: Group A includes the 3.5, 7, 14, 21 and 28 Mc. bands. Group B the 144 Mc. band, and Group C the 420 Mc. band. The Contest starts at 0001 hours G.M.T. on 3rd August and ends at 2359 hours on 12th October of each year.

Any two-way contact between an Italian station and one outside Italian territory will count. Signal report must be exchanged using the RS(M) 33 (5) for telephony, and RST 338 for telegraphy. Each valid contact on the bands 3.5 up to and including 28 Mc. (Group A) will score one points. Contact on 144 Mc. will score two points, and on 420 Mc. four pts.

Candidates for the awards must forward to the promoting Committee before 31st July of the following year a claim indicating the score obtained in the contest. The committee, on the basis of the claims submitted, will request the Radio Amateurs with the highest score to send an extract from the station log giving the following information: Date, hour G.M.T., frequency band, type of emission, power input to the p.a. of the tx, call sign of the station worked, signal report transmitted, report received, points claimed. The extracts from the station logs must be certified as true copies of the logs by two licensed Radio Amateurs of the same country as the claimant

In the event of a tie in the scoring, the winner will be the station using the lower power in transmission. Judging: the decision of the Judging Committee is final. The address of the promoting committee is: Civico Istituto Colombiano, Premio Radioamatori Columbus Marathon, Palazzo Tursi, Genoa, Italy.

NATIONAL FIELD DAY, 1958

The Federal Contest Committee of the Wireless Institute of Australia invites all operators of portable, mobile and fixed Amateur stations to participate in the 1958 National Field Day Contest.

Objects: The operators of portable and mobile stations within the Commonwealth and its Mandated Territories will endeavour to contact other portable, mobile and fixed stations, both **within their own State and in other parts of the Commonwealth.**

Date of Contest: The Contest will be held on the Sunday preceeding Australia Day, that is **26th January, 1958.**

Duration: The Contest will commence at 0001 hours and end at 2359 hours E.A.S.T. on the above date, and operating time will be restricted to any **nine** (9) consecutive hours during the above period.

RULES

1. There shall be five sections to the Contest:—
   (a) Transmitting phone.
   (b) Transmitting c.w.
   (c) Transmitting open.
   (d) Fixed stations working to portable and mobile stations.
   (e) Reception of portable and mobile stations.

2. All Australian Amateurs may enter for the Contest. Mobile or portable stations are limited to an input power, with aerial connected, of 25 watts to the final stage. This power shall not be derived from either private or public mains.

A portable or mobile station shall not be located within a radius of one mile from the home(s) of the operator(s), nor be situated in any occupied dwelling or building.

No apparatus shall be set up at the site selected for portable operation earlier than 24 hours before the commencement of the Contest.

A portable station may be moved from one site to another during the Contest.

More than one transmitter may be used provided that only one transmitter is used at a time.

3. All Amateur frequency bands may be used, but no cross-band operating is permitted.

4. Amateurs may enter for **one** of the above sections listed in Rule 1. An "open" log will be one containing both phone and c.w. contacts.

5. Only one contact per station per band is allowed and arrangements for schedules for contacts on other bands is not permitted.

6. More than one operator may participate in the operation of the portable or mobile station provided that all operators are licenced Amateurs. (Refer also to Rule 14.)

7. Entrants must operate within the terms of their licences.

8. **Cyphers**: Before points may be claimed for a contact, serial numbers must be exchanged and acknowledged. The serial number of 5 or 6 figures will be made up of the RS (telephony) or RST (c.w.) report plus three figures which may begin with any number between 001 and 100 for the first contact and which will increase in value by one for each successive contact, e.g. if the number chosen for the first contact is 053, then for the second contact the number is 054, for the third 055 and so on. If any contestant reaches 999 he will start again at 001.

For checking purposes only, the location of the portable or mobile station worked should be shown alongside each contact in the log.

9. **Entries** must be set out as shown in the example, using only one side of the paper. Entries must be postmarked not later than Saturday, 15th February, 1958, and addressed to the Federal Contest Committee, W.I.A., Box 1234K, G.P.O., Adelaide, South Australia.

10. **Scoring** will be based on the table shown.

Scoring Table

Portable and Mobile Stations:

(a) For contacts with fixed stations within the Commonwealth, including the competitor's own State .... 1 point.

(b) For contacts with other portable or mobile stations within the same State .... 5 points.

(c) For contacts with other portable or mobile stations outside of the competitor's own State .... 10 points.

Fixed and Receiving Stations:

(d) For contacts with portable and mobile stations in the Contest within the same State .... 2 points.

(e) For contacts with portable and mobile stations in the Contest outside of the State .... 5 points.

The following constitute call areas: VK1 (A.C.T.) and VK2 combined, VK3, VK4, VK5 (South Aust.), VK5 (Northern Territory), VK6, VK7, and VK9.

11. **Logs**: All logs shall be set out as in the example shown and in addition will carry a front sheet showing the following information:

Name.....Section.....
Address.....Call Sign.....
.....
Call signs of other operators.....
Location of portable station.....
.....from.....hours to.....hours.
.....from.....hours to.....hours.

Portable or mobile stations to include on this front sheet a brief description of the equipment used, including the h.t. voltage and power input to the final amplifier of the transmitter.

Declaration: I hereby certify that I have operated in accordance with the rules and spirit of the Contest.

Signed.....
Date.....

12. The right is reserved to disqualify any entrant who, during the Contest, has not observed regulations or who has consistently departed from the accepted code of operating ethics.

Portable procedure must be used at all times.

13. The ruling of the Federal Contest Committee of the W.I.A. will be final. No dispute will be entered into.

14. **Awards**: Certificates will be awarded to the highest scorer in each section set out in Rule 1.

Certificates will also be awarded to the highest scorer in each State in each section if the scoring is considered adequate.

Further certificates may be granted at the discretion of the Contest Committee.

In the case of a winning station being manned by more than one operator, each operator will receive a certificate provided that he has contacted at least 25% of the stations submitted on the log, and that he has signed the log declaring this to be true.

RECEIVING SECTION

1. The rules are the same as for the transmitting fixed station section, and it is open to all Short Wave Listeners in the Commonwealth and Mandated Territories.

2. Contest times and logging of stations on each band are as for the transmitting section.

3. To count for points, logs will take the same form as for the transmitting section, but will omit the serial number received. Logs must show the call sign and location of the station heard (instead of worked), the serial number sent by it and the call sign of the station being called.

Scoring will be on the same basis as for transmitting stations. It is not sufficient to log a station calling CQ.

4. A station heard may be logged only once for each band.

5. **Awards:** Certificates will be awarded to the highest scorer, and the higher scorer in each State.

EXAMPLE OF TRANSMITTING LOG

Date/ Time E.A.S.T.	Band	Emission	Call Sign	RST/NR. Sent	RST/NR. Rcvd.	Location Station Worked	Points Claim.	Blank

NOTE.—The standard W.I.A. Log Sheet follows the above form.

EXAMPLE OF RECEIVING LOG

Date/ Time E.A.S.T.	Band		Call Sign Heard	RST/NR. Sent	Station Called	Location Station Worked	Points Claim.	Blank

NOTE.—The standard W.I.A. Log Sheet follows the above form.

A TWO METRE LONG YAGI

BY I. F. BERWICK,* VK3ALZ

OVER the past few months the writer has been using an 18 element long yagi on 2 metres. The results have been highly satisfactory and so much superior to the previous 5 over 5 that he feels that this type of beam is a distinct step forward.

The writer claims no credit for the design of this beam, full marks go to W2NLY and W6QKI, who did the original work, however the method of matching is the writer's own and he feels that it is superior to anything used previously at his QTH.

Anyone interested in the development of the long yagi should read the January 1956 issue of "QST."

This antenna, being a high Q type, is effective only over a bandwidth of 2 Mc., i.e. 1 Mc. each side of the frequency for which it is cut. Also the presence of any metal objects in the immediate field of the antenna distorts the pattern and ruins its performance. So it is preferable to site the antenna ten feet or so away from any other antenna system.

The aperture of the long yagi (sometimes known as the captive area) is not the frontal area (which is quite small), but is calculated from the beam widths in the E and H planes. This calculation is given in "QST," January 1956. For the 32-ft. model, it is approx. 20 ft. in diameter. A low Q array would require to occupy the same area to give the same performance.

So for 2 metre DX the long yagi wins on all counts—

(1) High gain.

(2) Low frontal area, hence less wind resistance.

(3) Simpler construction, no phasing sectors, one driven element, etc.

Details of element lengths and spacings are given in the chart. These figures are critical and must be strictly adhered to. Note that three reflectors are used in a triagonal arrangement. This system is highly recommended, as a large improvement in front-to-back and minor lobe reduction is achieved with this.

MATCHING SYSTEM

The matching system is a modification of the well known gamma match, suitable for 50 or 70 ohm co-ax feeders and plumbers' delight arrays.

In the gamma match an air spaced variable is used to cancel out the reactance of the gamma section.

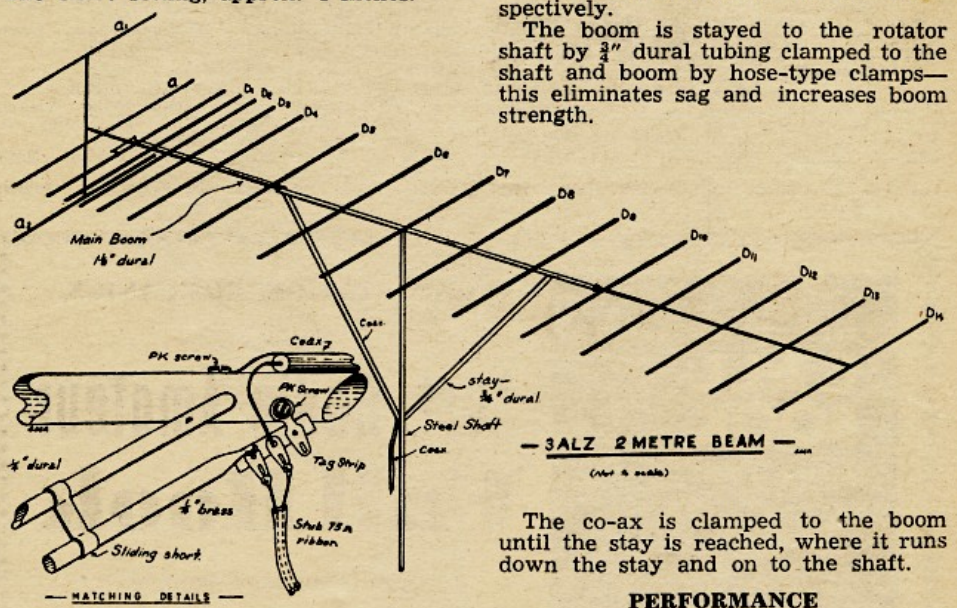
In the VK3ALZ system the air spaced variable is replaced with an o./c. stub one-quarter wavelength in length, which of course has a capacitive reactance.

Advantages of the latter system are: (1) Simpler construction, no condenser housing to construct; no chance of condenser break-down due to moisture; more compact; light weight (an important consideration as the matching system is out on the end of 16-ft. length of boom). (2) Once the matching is completed, the adjustment is permanent—the writer has detected no change in s.w.r. over a period of three months.

In practice, the stub is made out of 75 ohm ribbon. Its final length being approx. 5 inches; more of this later.

MATCHING PROCESS

With the s.w.r. bridge in the line and the transmitter on the frequency you propose to use for DX work, and a stub of 10 inches of 75 ohm ribbon connected, also the sliding short of the gamma section at about 4 inches out from the centre of the boom, start pruning the stub, watching the s.w.r. drop, until say a 4 : 1 s.w.r. is reached. Then adjust sliding short for an s.w.r. minimum. Proceed now to prune the stub, readjusting the short as you go, until a final minimum is reached. This should be 1.3 : 1 or better. The stub length for RG8/U is approx. 5 inches. The short setting, approx. 4 inches.



Element	Length inches	Spacing inches
Reflector a(1)	40½	5
Reflector a(2)	40½	
Reflector b	42½	15
Driven*	38¾	7
Director 1	37	7½
„ 2	36⅞	7½
„ 3	36⅜	16
„ 4	36¼	32
„ 5	36⅛	32
„ 6	36	32
„ 7	35⅞	32
„ 8	35¾	32
„ 9	35⅝	32
„ 10	35½	32
„ 11	35⅜	32
„ 12	35¼	32
„ 13	35⅛	32
„ 14	35	32

* Use ¼" dural.

If you go too far and cut too much off the stub, just solder a new length on and start again.

The radiation resistance is quite low, probably in the region of 10 to 12 ohms, so make a good job of all connections. With 100 watts input the currents are quite high.

CONSTRUCTIONAL DETAILS

The boom is 33 feet long, using 1⅛" dural tube; the centre 10 feet being reinforced with 1¼" tubing. The full length of tubing is unlikely to be available, but shorter lengths can be spliced with no loss in strength. See sketch for details.

The elements are of ⅛" dural wire mounted in ⅛" holes drilled in the boom and held in place with binding of nylon fishing line.

The two rear reflectors are mounted on a minor boom of ¼" dural tube which passes through the boom vertically. These reflectors are spaced 20 inches above and below the boom respectively.

The boom is stayed to the rotator shaft by ¾" dural tubing clamped to the shaft and boom by hose-type clamps—this eliminates sag and increases boom strength.

The co-ax is clamped to the boom until the stay is reached, where it runs down the stay and on to the shaft.

PERFORMANCE

Horizontal beam width to the half power points has been measured at 26°, using an accurate S meter. According to the designers, the beam width should be also 26° in the vertical plane. The writer has been unable to measure this accurately, but it is very sharp, as on the ground under the antenna no field strength worth mentioning is detectable, but 50 yards out an 0-2.5 Ma. field strength meter goes hard over.

The beam is 40 feet high.

Gain: Db. figures are always open to argument, but using the formula and assuming E and H plane beam widths are identical, gain comes out at something over 18 db.

Front-to-back at least 30 db. on the S meter.

Minor Lobes: The two largest minor lobes occur at about 30° each side and are at least 15 db. down.

* Lot 35 Loongana Avenue, Glenroy, Vic.

AMATEUR CALL SIGNS

AMENDMENTS TO JUNE, 1957

NEW CALL SIGNS

VK— **Australian Capital Territory**

1VP—E. Penikis, Station: Reid House, Canberra, A.C.T.; Postal: 42 Kennedy St., Kingston, A.C.T.

New South Wales

2ND—J. B. Deering, Oak Rd., via Gosford.
2NF—R. Innes, C/o. Dixon, "Piccadilly," West Market St., Richmond.
2NN—T. Preece, "Bonnie Doone," Kurrajong Heights.
2TQ—T. T. Tatham, 1359 Pacific Highway, Turramurra.
2AFS—Home Command Amateur Radio Club, C/o. F/O. W. E. Dixon, Home Command Hq., R.A.A.F., Penrith.

Victoria

3BN—H. C. C. Hargraves, 2 Graham St., Albert Park.
3LW—L. M. Stone, 18 Douglas St., Rosanna.
3SJ—S. D. Wheeler, 31 Barnard Gr., Nth. Kew.
3AEO—A. E. Finch, C/o. Radio Australia, Shepparton.
3AHO—W. R. Hempel, Kyvalley Rural Delivery.
3APJ—P. J. Dettman, 45 Hutton St., Kyneton.
3APT—G. W. Glover, 5 Miller St., Alphington.
3AWD—W. D. Mather, 79 Carrol St., Gardiner.
3ZCY—J. H. Ely, 15 Sharp St., Northcote.
3ZEC—R. H. Hall, 6 Service St., North Essendon.
3ZEP—D. C. Paton, 20 Scotts St., Bentleigh.
3ZFH—B. R. Harris, 49 Havelock Rd., Hawthorn.

Queensland

4GX—F. Barroclough, 16 Gail St., Kedron, Brisbane.
4WA—W. J. Barker, 14 Whish St., Windsor.
4ZAX—D. R. Horgan, Park Rd., Yeerongpilly.
4ZAY—R. J. Conway, Anne St., Aitkenvale, Townsville.

South Australia

5FY—R. A. Catmur, C/o. A. V. Ferguson, 8th St., Gawler West.
5HA—S. G. Hart, 20 Whitford Rd., Elizabeth.
5SA—T. Grierson, 108 Diagonal St., Somerton Park.
5ZCV—L. F. Choate, 20 Sizer St., Lower Mitcham.

Western Australia

6AD—A. W. Stewart, South Western Highway, Armadale.
6JM—J. A. Moran, C/o. Base Squadron, R.A.A.F. Pearce.

Tasmania

7WY—J. F. Westley, Rosebery.

Papua-New Guinea and Other Islands

9DX—Rabaul Amateur Radio Club, Park St., Rabaul, N.G.
9JF—J. M. Fulton, Station: Direction Island Cocos-Keeling Group; Postal: C/o. Cable and Wireless Ltd., Cocos Island, Indian Ocean.
9NM—N. O. Myers, C/o. Dept. of Posts and Telegraphs, Lae, N.G.

CHANGES OF ADDRESS

VK— **New South Wales**

2DX—C. E. King, 14 Burrell St., Beverly Hills.
2KL—H. A. Preston, 99 North Rd., Ryde.
2WI—Wireless Institute of Aust., N.S.W. Div., Quarry Rd., Dural.
2ZN—J. Brand, 4 King Edward St., Rockdale.
2ADH—F. C. Deaman, 11 Brothers St., Dundas.
2ALX—D. S. Kirby, 59 Dalton St., Orange.
2AOQ—D. F. Lloyd, 18 Cox Ave., Bondi.
2ATT—J. C. Treby, Charles St., Tweed Heads.
2AUS—S. S. St. George, 8 Woodbury St., Marrickville.
2AVJ—W. B. Jones, 30 Little Rd., Bankstown.
2AWI—Wireless Institute of Aust., N.S.W. Div., 10 Clarence St., Sydney.
2AWZ—D. Andrews, 21 Warwick St., North Ryde.
2ZAC—W. R. Cox, 28 Gardinia St., Narwee.
2ZAU—K. Woodward, 26 Collins St., Belmore.
2ZBF—J. K. Doherty, 1/11a Silex Rd., Mosman.
2ZCR—R. M. Marsden, 43 Houston Rd., Kingsford.
2ZDB—A. J. Bowman, 55 Curtis Ave., Taren Pt.

Victoria

3BL—W. T. Lucas, 2 Ellen St., Parkdale.
3CD—J. Rich-Phillips, Station: Narre Warren (Temp.); Postal: C/o. M. Chaffey, 18 David St., East Preston.
3GE—G. E. Every, 15 Shenfield Ave., Bonbeach.
3KO—M. A. O'Keefe, 429 High St., Golden Square, Bendigo.
3MI—W. A. McLeod, 42 Capon St., Chadstone, S.E.10.
3NZ—R. H. Hall, 17 College Gr., Black Rock.
3OM—R. S. Fisher, Station: Fairview Ave., Wheelers Hill; Postal: 758a Glenhuntly Rd., Glenhuntly.
3QM—B. I. Leamonth, 5 Sutton Ave., Portland.
3RF—R. F. Miller, 26 Iawn Rd., Noble Park.
3UG—N. Culliver, 11 Bay St., Queenscliff.
3VR—J. H. Dexter, 143 Pallatt St., Beaumaris.
3ACX—D. H. Davis, Lot 25 Tram Rd., Doncaster.
3AGE—M. G. Esam, 103 Kepler St., Warrnambool.
3ALO—A. L. Lowe, 28 Ramsay Ave., East Kew, E.5.
3AMP—T. M. Palmer, 223 Henty St., Casterton.
3AMZ—B. G. Powell, C/o. I. McGuffie, Camp St., Beechworth.
3APH—P. E. Playsted, 26 Kooyong Koot Rd., Hawthorn.
3AYW—K. Y. Wenborn, 38 Waverley Rd., Chadstone.
3ZCA—R. J. Skevington, Hunter St., Kellor.

Queensland

4LE—L. H. Cox, "Adventure Downs," Springsure, via Emerald.
4NP—N. F. Wilson, 11 Orari Road, Yeronga.

South Australia

5DL—T. P. Drake, 13 Lindley St., Greenacres.
5NB—R. E. Bell, 328 Brighton Rd., Hove.
5OP—P. S. Roper, Devonshire Rd., Hawthodene.
5VC—J. G. Mason, 39 Fuller St., Parkside.

Western Australia

6CF—C. L. Farkas, 11 Recreation Rd., Kalamunda.
6GY—T. P. Gardner, 35 Bedford Rd., Mt. Pleasant.
6HT—H. A. Tarbottom, Station: Lower King River, Albany; Postal: 184 York St., Albany.
6JR—J. R. Wood, 1031 Wellington St., West Perth.
6OY—T. H. Mitchell, 27 Oxford St., Kensington.
6QO—F. R. Gray, 69 Duff St., Merredin.
6ZAA—W. J. Howse, Flat 3, 51 Outram St., West Perth.

Papua-New Guinea and Other Islands

9EB—K. S. Mullan, C/o. Mandated Airlines, Lae, N.G.

CANCELLED CALL SIGNS

VK— **Australian Capital Territory**

1AVP—E. Penikis. Now VK1VP.

New South Wales

2RX—S. W. Owen.
2VD—C. M. Barnett.
2AMZ—H. S. Young.

Victoria

3AJM—J. G. Moss.
3AKC—G. J. Griffiths.
3ARR—R. W. Binks.
3AUW—S. D. Wheeler. Now VK3SJ.
3AVJ—J. E. Lewis.
3AVP—P. H. Lewis.
3AWT—C. J. Waterlander.
3ZCO—L. M. Stone. Now VK3LW.

Queensland

4DW—C. D. Wright.
4SE—S. E. Molen. Transferred to N.S.W.

South Australia

5BQ—A. W. Baker.
5NC—R. G. Clayton.

Western Australia

6TM—F. Wiseman.

Tasmania

7CJ—A. E. Finch. Now VK3AEO.
7IB—I. G. Gillies.

Papua-New Guinea and Other Islands

9OG—D. F. Lloyd.

PERMITS GRANTED FOR TELEVISION EXPERIMENTS

VK— **New South Wales**

2AT/T—L. Altman, 132 Sproule St., Lakemba.
2AFK/T—F. H. Kenny, 13 Fuller Ave., Earlwood.
2APQ/T—P. J. Healy, 69 Taylor St., Bankstown.

Victoria

3SM/T—A. M. Crewther, 28 Reynolds Pde., Pascoe Vale.
3AJJ/T—H. R. James, C/o. Station 3LK, Lubeck.
3ZBU/T—N. R. Dench, 27 Glenbervie Rd., Strathmore.

Queensland

4JE/T—J. G. McIver, 21 Hurd Ter., Morningside.

YL CORNER

BY PHYL MONCUR*

This month we have the story of another YL of quite long standing, namely, 3HQ, Mrs. Marg. (formerly Hutchings) Williamson. Marg's connection with Amateur Radio dates back to the 1920's when her brother, Alan, who holds the call 3HL, and her mother, Mrs. Elizabeth Hutchings, who at that time held the call 3HM, were both DX enthusiasts and the Hutchings family were famous for their family activity on the bands from their station at Callawadda. Mrs. Elizabeth Hutchings, who passed on in 1943, was one of the very earliest YLs in VK to receive her licence and most certainly the first in Victoria. Alan 3HL is still of course very active and also takes a great interest in the rural fire brigade network.

Marg's interest in Amateur Radio developed quite slowly, however. At first she was content with two licenced operators in the house and just occasionally listened in. One day after enjoying a programme of music from W land she tuned into a c.w. signal and found herself feeling quite irritated that she could not understand it and her mother and brother could and this is where her career as an Amateur really all started. She then set forth to learn the code, this was followed by the theory, which she found quite fascinating, and in 1932 she herself received her licence.

With her mother she shared a 3-stage xtal controlled rig and during the 1930's she was very active working all hours late into the night and then up again early in the mornings to capture the DX and this went on until the war came. Then, as a war effort, she took up nursing with the R.A.A.F. nursing service, and at one time was stationed at "Frognall," where, because of her qualifications in radio, she managed to get some practice with the code. Later she was posted to Japan. Through the R.A.A.F. she met her husband, Flying Officer Clive Williamson, and they were married in Japan. Today they live in a comfortable modern home in Bentleigh and Marg has her hands well and truly full running her home and caring for their three young children, two girls and a boy aged 4, 5 and 7 years, and so radio must bide its time for a while.

However, she has lots of memories, among which is a large silver cup presented to her by the Victorian Division of the W.I.A. as winner of a 5-point relay contest which she won in 1933. Also there's her radio snap album in which I found photos of several well known radio personalities, both from DX countries and nearer home. There was one of a good looking curly headed youth and underneath the call 3KR, Ken Rankin, and another of a debonair gentleman sporting a very smart moustache and you don't need three guesses to know who this was—why Max Howden, 3BQ, of course. There was also a photo of her original rig which was on show at a hobbies exhibition in 1932.

Although she hasn't been active on the air for a few years, she still corresponds and exchanges photographs with several of her old DX pals, W2CC and CR7AD are among these and she also has a card which she prizes greatly, it is from Prince Tungku Ahmad, VS3AE.

She recalls an early radio convention which was held at the Hutchings' homestead on their property at Callawadda where they accommodated a large number of Hams for a week-end and they had make-shift beds made up in every available corner in the house. Probably many of the old-timers will remember this week-end.

As we chatted a light came into her eyes, a light of very pleasant memories and although home and family keep her too busy to take an active part in Amateur Radio at present, I'm sure the time will come when Radio will come into its own again and we'll be hearing that once familiar call of 3HQ going flat to the boards calling CQ DX once again.

* 235 Union Road, Ascot Vale, Vic.

S.W.L. SECTION*

NEW SOUTH WALES

Stan Abbey writes again to let us into the secrets of the boys in Coolamon. Since purchasing a car he has been very busy building a garage and, yes, he's also built it to allow for the inclusion of a shack. Another addition to his gear is a 109 rx covering from 2.5 to 5 Mc. Stan intends to build up some converters to feed into it. Jock Ashley and Stan recently helped Jim 2AJO extend his tower up about five feet and were almost as agile as monkeys when the job was completed. No doubt Jim is teaching them Amateur Radio the practical way. Study for the ticket under Jim's supervision has been progressing steadily for both of the boys and the big day comes up in about two months' time. Best of luck fellas.

VICTORIA

Dave Jenkin, WIA-L3039 writes and tells me he has now gone back to using his t.r.f. rx, having pulled his superhet to pieces and thrown the chassis in the river. Recently, due to heavy rain, Dave was cut off from the town, but managed to carry on cheerfully. He says it doesn't worry him as long as he has plenty of tobacco and batteries. Dave states that he considers his t.r.f. rx as good as any for 14 Mc. c.w. in which he is mainly interested.

I have received a short note from a s.w.l. in Healesville by the name of G. Weber, asking for details of our Group. By the time he reads this he should have the required information.

* Compiled by Ian J. Hunt, WIA-L3007, 211 St. George's Road, Northcote, N.16, Vic.

Recently several members of the Group paid a visit to Mr. R. V. Wilson, 3SD, to see his station. The boys found it most interesting, the tx being located in his garage and remotely controlled from the house. Those who went on this visit said they really enjoyed themselves, and we thank Mr. Wilson for having some of our members along.

July Group Meeting.—At this meeting we enjoyed having Mr. R. Gillies, of the Dept. of Defence Production, to talk to us about Japan. Mr. Gillies spent some time in that country working for the Australian Government just after the war. His talk was most varied, interesting and often most amusing. He kept us so entertained that the meeting was in danger of running on into the small hours of the morning. Possibly the best compliment we could pay him would be to re-iterate the suggestion of one of those present, that he should come back again soon and tell us even more of his experiences. We thank you very much indeed, Mr. Gillies, for coming along to speak to us.

Future Programme.—On Sept. 2 we are holding a visit to TV Station HSV7. This is being looked forward to with much interest by members. We hope to tell you more of our visit next month. We will also have had our trip to the Newport Power Station by the time that this is read.

As office-bearers for the Group are not re-elected until the end of August no further arrangements have been made for visits and lectures. However, you can rest assured that an interesting and full programme will soon be lined up for you, so come along to the Group meetings and find out all about it. We meet at the W.I.A. rooms, 191 Queen Street, Melbourne, at 8 p.m. on the last Tuesday of each month.

As my current term as Secretary of the Victorian Group has now ended, I wish to thank all those who have assisted the Group in any way and those who have written to help keep these notes going, and I hope you will continue doing so in the future. Remember, it is only through your co-operation we can keep Short Dave Listening to the fore.

50 Mc. W.A.S.

Call	Cer. No.	Add. Cntr.	Call	Cer. No.	Add. Cntr.
VK2WJ ..	13	4	VK2AEZ ..	10	1
VK3PG ..	5	3	VK3XA ..	11	1
VK2VW ..	9	3	VK3GM ..	12	1
VK4RY ..	2	2	VK3ACL ..	14	1
VK4HR ..	4	2	VK3ZD ..	16	1
VK5LC ..	1	1	VK2HO ..	17	1
VK6DW ..	3	1	VK2ABC ..	8	
VK3RR ..	6	1	VK2WH ..	15	
VK3HT ..	7	1			

FIFTY-SIX MEGACYCLES AND ABOVE

56 Mc. NOTES

"Numbers, Numbers, Numbers and Try, Try, Try."

This motto sums up all that is necessary to make the 56 Mc. band tick, particularly during this, the Geophysical Year. The numbers must be there to keep a close active watch on the band during as many of the 24 hours as possible. Openings beyond the normal ground path range run to no predictable timetable though a broad generalised but inaccurate pattern may be plotted as to when the band should come good. Here we have the seasonal peak coming with the spring, here with us now, with pre-noon, early evening and moonrise breaks. In between is the unexpected during any of the 24 hours, though midnight until 0600 is an unplotted sea in this part of the world.

Numbers active would create more opportunity for DX contacts provided that signals were put on the air in preference to a continuous listening watch. A dead band is never as dead as it appears to be until it has been proved that way by making one or two calls, allowing transmitter warm-up time to the fellow who hears the end of the CQ. And what is the use of contemplating the use of this or any other band if the will to try is not there. Objection could be raised that too much time could be wasted on this band waiting for signals to come up, there is too much else to do around the average Ham shack. That argument carries no weight. There are various methods by which a receiver can be automatically and continuously tuned with the refinement of relays being used to trip the tuning when a carrier is received. That would leave the operator free to do what he liked, whether it be working on his equipment, operating another band, or just plain relaxing. One method of auto tuning has already been described in "A.R."

Sked Time and National News

Reg 2ATS, of Inverell, 56.500 Mc., has just about settled down in his new home and most evenings finds him in the shack by 2000 E.A.S.T., listening for calls from the south until 2015. Then calling until 2030. Reg does not guarantee to be there every evening, but from past experience he shall not be missing too often. For the benefit of the boys in Melbourne and VK5-VK6, the husband and wife team of 3VL-3US, of Leongatha, on 56.560 Mc. comes on each Sunday evening at 2030, and as soon as the t.v. problems of the locality ease off and there is not so much call on his time, Rex will be on more frequently. From Peter 3APF, Shepparton, 56.250 Mc., comes the news that he still runs a daily sked with Alan 3UI, 56.040 Mc. and located at Tatura, at 1900. Their beams aim south to favour the Melbourne and VK7 gang. Occasionally Sid 3CI, Nagambie, 56.005 Mc., joins in with his beam north, so firing a signal straight up the Eastern seaboard direct at VK9 with the JA country as a backstop should that wonderful moment come.

Vern 4LK, Charters Towers, last heard JA 50 Mc. signals on 13th July at 1915, a couple of them averaging S8, apparently having a ragchew, with a third calling CQ DX, very weak and fluttery as though off the side of the beam. Vern uses a quad for reception on 50 Mc., with a 4 element job for 56 Mc. Recently, using a 16 element beam he has been trying to establish a link with the Townsville gang on 144 Mc., but up until the time of writing (July 22) had not succeeded in bridging the 63 miles. It is only a matter of time.

Your Quiz for the Month

What is your interpretation of Para. 112 of the P.M.G. Handbook for Amateur Operators, which can be read to indicate that unmodulated and so unidentified carriers may, on frequencies from 56 Mc. upwards, be emitted for any period of time whilst tests are being carried out (or, as in some cases, background noise is provided by natter in the shack, a prevalent habit on 144 Mc. in some localities). Perhaps Federal Executive could clarify the point seeing that the Reg. was initiated at the 1953 Federal Convention. But whether your study of the Handbook finished at para. 112 or not, bear in mind that para. 136 emphatically states that an Amateur Station shall transmit its call sign at least once every five minutes during each session.

—Frank O'Dwyer, VK3OF.

NEW SOUTH WALES

Meetings.—The annual meeting of the V.h.f. and T.v. Group was held at Gore Hill Technical College on Friday, 5th July. The new Chairman, Bob 2OA; Vice-Chairman, Dave 2AWZ; Secretary, Jim 2ZBD, were elected without opposition. Successful (?) candidates for the remaining three Committee vacancies were John 2ANF, Charlie 2NP and Phil 2ER.

Bob 2QZ then treated those present to an exhibition of colour films concerning his recent trip to Africa and other places. Our thanks to Bob for this most entertaining evening. We think we might buy a "box Brownie" too.

At the August meeting held on Friday, 2nd, a lecture on Panoramic Reception was given by Max Riley, 2ARZ. Max fully explained the theory of operation, and supported this with meticulously prepared circuit diagrams and a demonstration with a Panadaptor he had built himself (and very nicely built too). A vote of thanks was moved by Bill 2ABZ and passed in the usual fashion.

2ER explained that although it was not anticipated that the first I.G.Y. satellite would be launched before early 1958, interest in the project, both from a radio and astronomical standpoint, would be maintained. Assisting to this end, full scale rehearsals would be held at intervals of from six to eight weeks. The first of these would commence on Sunday, 1st September, and continue for one week.

The newly appointed contest sub-committee (2AWZ and 2ANF) submitted several suggestions concerning the Spring Field Day and invited comments from members. This matter was discussed at length and is to be finally resolved at the next meeting of the management committee.

Monthly Night Fox Hunt was held on 24th July. The starting place was at Ryde and the fox, 2OA, hid himself in the Bradfield Park area. Records were broken that night (we think) and when 2ZBD with 2ANF and 2ER as passengers located that . . . Pilot in 29 minutes they were justly proud and elated until they discovered that the job had been done by that master hound 2AWZ in 18 minutes. Third in was 2ZBB in 64 minutes.

Midwinter Contest, which was in the nature of a scramble, took place on 13th and 14th July between 2000 and 2300 hours each night. Stations operating on both 5 and 2 mx were eligible and points were awarded for both inter-band and intra-band contacts. The winner was 2OA (133 points), with 2ZAV (129 points) second, and 2ANF (120 points) third.

The Monthly Day Fixture commenced on Sunday morning, 21st July, when members visited the C.S.I.R.O. Research Station at Fleurs and inspected the Radio Astronomy Installation there. We are indebted to 2NP for this most interesting visit. Thanks Charlie!

Our thanks also go to John 2WJ who spontaneously invited all those present to inspect the Overseas Telecommunications installation at Bringelly; an invitation accepted by all with alacrity.

During the month of July five metre activity has increased. Stations known to be operating include 2ZAL, 2ZBG, 2ZAV, 2ZBB, 2ARG, 2OA, 2ASA and 2ZDC. 2ZCF and 2ZBB, both mobile in Sydney, were heard in Singleton by 2VU at good strength on 2 mx. 2DR (Blayney) was in demand on 2 mx on Friday 26th, when, with a signal peaking up to S9, he worked six stations in the Sydney area. 2ANU (Muswellbrook) was heard and worked in Sydney by 2HE and 2ER the following night. Also a fine (S8) 2 mx signal of 2ATS (Inverell) has been working 4CU 138 miles to the north. Jock 2GM, an old hand on other bands no doubt, has been heard on 2 mx for the first time; welcome to 2 mx Jock. 2ZBD worked several Sydney stations with 2ANF's walkie-talkie from his hotel bedroom at Katoomba. 2ASA and 2ON have been pointing their beams Sydneywards on Sunday mornings from 1030 hours onwards.—2ER.

VICTORIA

The turn up for the July V.h.f. meeting was very disappointing—a mere 20 arrived where a sit-down supper for 40 had been catered for. Because of the supper and the interesting evening organised by Mr. Stearman, Tom 3AOG and George 3ZEH, all of T.A.A., everybody enjoyed themselves immensely. Perhaps July could have been called "Apathy Month." As well as the poor attendance at the meeting cum excursion, there was also a poor turn up for the fox hunt. In fact only two people turned up—1 fox 3ZBU and 1 hound 3ARY. Because of insufficient starters and the wet weather, the hunt was called off. Let's hope some fox hunters of the past and some new ones as well become interested, otherwise it would be a pity to see fox hunts end through lack of support after going for so long.

Activity on 144 Mc. has not died out as much as usual this winter, but unfortunately most of the active stations are suburban and don't appear to be interested in DX. Eric 3ANQ at Warrnambool has been active, but apart from 3RK he cannot get Melbourne QSOs. To make matters worse, Eric can hear stations talking amongst themselves. This sort of thing doesn't encourage the country v.h.f. boys, so next time you are on 2 mx tune carefully—your signal may be going further than you think.

Glen 3ZBJ has been very quiet of late, partly due to a car accident and partly because of his job. Recently he spent some time at Ararat and whilst there heard Melbourne stations on 144 Mc. The most consistent was 3ZFH—usually about strength 5 and quite readable. 3HW at Ballarat is really making an impression on the band. On the occasion of his first QSO, David 3ZAT at Maffra heard him quite well. 3ZAT, by the way, has got a new beam up—a 5/5 nearly 60 ft. high. Other stations with new beams are 3ZCG, a 32 el. phased array; 3DY, with a 16 el. array up 50 ft., and 3TH with a quad yagi. All stations report much improved results with their new "signal squirters" and 3ZCG in particular has a much stronger signal now.

These reports highlight the necessity for large beams if you wish to be a successful v.h.f. DX operator. It would pay dividends, particularly for country ops., to put up large beams, at least a 5/5, as high as possible. Don't mess about with folded dipoles, 4 el. yagis 10 ft. high, or other such beams—they won't get your signal through. If you wish to experiment with aerials, at least get a proven "big un" up for those DX QSOs.

Ian 3ALZ has been having some success on 56 Mc. He has had a number of fine QSOs with 3ZL and 3ZCN at Ballarat and he has heard 3ZCG at Newborough East. Peter 3ZAF has a xtal locked converter going on 5 and he hopes to have his 815 delivering the goods shortly. This same 3ZAF character was adopted by some American ships visiting Melbourne recently—he even got his photo in a local rag. Despite this adoption and the radio gear he saw whilst on board, he decided to remain in VK3—because somebody has to give a report on the 288 Mc. relay—or so he says.

A few more stations with 5 mx gear that I have recently learnt of are 3XM, 3UI (Tatura), 3APF (Shepparton) and 3ATN (Birchip). 5BC at Renmark also has gear for this band. Some new stations on 144 Mc.—and there seems to be more coming on each week—are 3ZDW, 3ZDJ, 3SF (ex-3ARI), and 3ZEN. Bob 3ZAH now has his hopes realised as he is now a going concern. Welcome to the band gents; may your stay be a long and happy one.

Gippsland stations are very active on Thursday nights. They have their zone hook-up at 2100 hours on 144.18 Mc. and at 2030 3ZCG has a sked with 3ZDB, and at 2200 hours with 3BN. The boys are keen and looking for contacts so don't disappoint them.

This month I'm going to end on a sour note. None of us are perfect in our operating practice, but some of the current practices on the v.h.f. bands could be dispensed with without much trouble on the part of the offenders. My remaining remarks apply only to these "bods". If you use a v.f.o. use it properly and with discretion. If you must overmodulate and splatter, shift up to 147 Mc. and give other people a go. If you are in contact with a station, don't have private conversations with someone else in your shack; it's rude and an insult to the other station. If you must speak to somebody else, excuse yourself, that's plain ordinary good manners. Finally, how about giving your full call sign at the beginning and end of EACH transmission—it is required by Regs., you know.

Remember, there are other people who share the band with you—make your presence welcome.—3ZAQ.

SOUTH AUSTRALIA

A great spurt of building activity on 56 Mc. seems to be the order of the day, for apart from items published last month from VK2 and 3 most of the gang here seem to have deserted the 2 mx band in favour of screwdriver and soldering iron at present, so there is a fair promise soon of a bunch of 56 Mc. sigs this way.

The 5WC boys are amongst it too, so will look for something special from there soon. Bill 5ZAX another one with Neil 5ZAW already there; get that tower up Neil and let's hear more from you.

George 5GB, John 5ZBA, Keith 5MT appear to be the mainstays on 2 these parts, with Col 5CJ, Claude 5CH down Gambier way, not

(Continued on Page 14)

DX ACTIVITY BY VK2QL†

Some of the regulars are missing this month and judging from the comments of those I did hear from, it is probably due to their inactivity. Not a word from VK5 and have not heard any of them on. Probably getting organised for the R.D. Contest.

NEWS AND NOTES

The **Aland Islands** are well in the news at present with activity by **OH0NB, OH2RD/0, OH2KQ/0,** and **OH3UI/0.** Their period of activity in some cases has finished (2ACX).

VR6TC will send QSLs and is reported to be building a beam (Rod de Balfour).

ZA2ACB should be heard on the air this month and is DM2ACB (7LZ).

LA2JE/P has been operating from Spitzbergen. Don't know of his being heard out here.

KP6AL has no regular postal services or Post Office facilities at his QTH.

XW8AB has sent out a big batch of cards to VK Bureaux and they date as far back as August '55.

ACTIVITIES

3.5 Mc.: BERS195: VK9AD (Norfolk Is.) and W5PDO.

7 Mc.: 2AIR: FK8AT*, **2AMB:** VK9NT*, DU-7SV*, JA7BE*, KR6AC*, PY8YS*, HP3FL*. **6EJ:** VS2ER*. **Rod de Balfour:** W, KH6, VE, JA, HP3FL. **BERS195:** FK8AT, JA. FA8BG, 4X4HK, KM6AX, VP8CW, ZS6CH.

14 Mc. C.w.: 0AB: CE4AD*, KC4USV*, CX6CM*, XZ2TH*, VP8CC*, CR7BN*, XW8AB*, ZC5AL*, UH8KAA*, ZS1NQ*, ZS1RM*, FE-8AE*. **2ACX:** OH2RD/0*, OH2RD*, OH3UI/0*. **2AIR:** FY7YF*, VP5BL*, VR3E*, ZC5AL*, KP4CC. **2AMB:** KC4USV*, FO8AC*, KW6CM, HL2AM. **2QL:** EA8DF*, ZL5AA*, KP6AL*, TI2VA*, VK0AS*, FB8XX*, ZC5RF*, XZ2TH, FF8BZ, ZD4CM, VP2LU, OH3UI/0. **6EJ:** VQ-5GC*, KL7WAF*, VR4JB*, G*, SM*. **7LZ:** PX1FC*, FB8XX*, FB8ZZ*, 3W8AA*, HI8BE*, FP8AP*, VP5BL*, VP9Y*, PZ1BS*. **9XK:** HI-8BE*, ZC5AL*. **WIA-L3039:** KC6UZ, EA9BH, PA0CE, HI8BE, XZ2TH, VP5BL, VU2RC, TI-2AA. **BERS195:** FK8AC, CE3RE, CX1BO, KZ5LB, OQ5GO PY3DB, PY8MO, PY4AJD, VK9AD, VR3G, VP8CC, ZK2AD, YV5HL, YV4AU.

14 Mc. Phone: 0AB: KC4USK*, ZL5AA*. **2AMB:** EA8CC*, I1BEQ*, EA7AI*, EA9BK*, OA4AW*, VU2JD*, YV5BL*, HL2AM, TI2RC, VR2AG, HP1CC. **2AQJ:** on s.s.b., W*, KG6*, KL7*, KA*, KC4*, ZS5JF*, VS6, G, DU7SV, DL, KV4AA, F. **Rod de Balfour:** G, DL, EA, GD2FRV, EI, I1BFS, F, CT, LA3G, SV0FR, EA8CC, ZS6OV, 4S7YL, BV1US, ZK2AB, XE-2DO, HP3FL, YU5EC, OA4EI, LU6IJ.

21 Mc. Phone: 0AB: ZS6DT*, ZS4PD*. **2AMB:** KP4AEQ*, FS7RT*, VK0CJ*, FO8AC*, KP-4ADX, FK8AC. **Rod de Balfour:** EA, G, CT, OZ, OH, F, I, CN8GR, ZC4EN, ZS6BW, ZS-6UR, VQ4RF, 4S7YL, HS1A, VS4JT, VR2AG, KZ5UJ, VP1EE, VP7NB, VP6ZX, FS7RT. **7LZ:** VK0CJ, VK0AB, OH2OP.

21 Mc. C.w.: 2QL: CN8BQ*, FO8AC*, UA-0CI*, VK0AB*. **2AIR:** KG4AN*.

28 Mc. Phone: 4XJ: KH6*, VR2AG*, KP-4UY*, XE1BX*, ZS5XX*, ZS6AJV*, ZS5RE*, ZS6AIA*, ZS6JL*, OQ5BK*, FB8ZZ*.

28 Mc. C.w.: 2QL: VK0AB*.

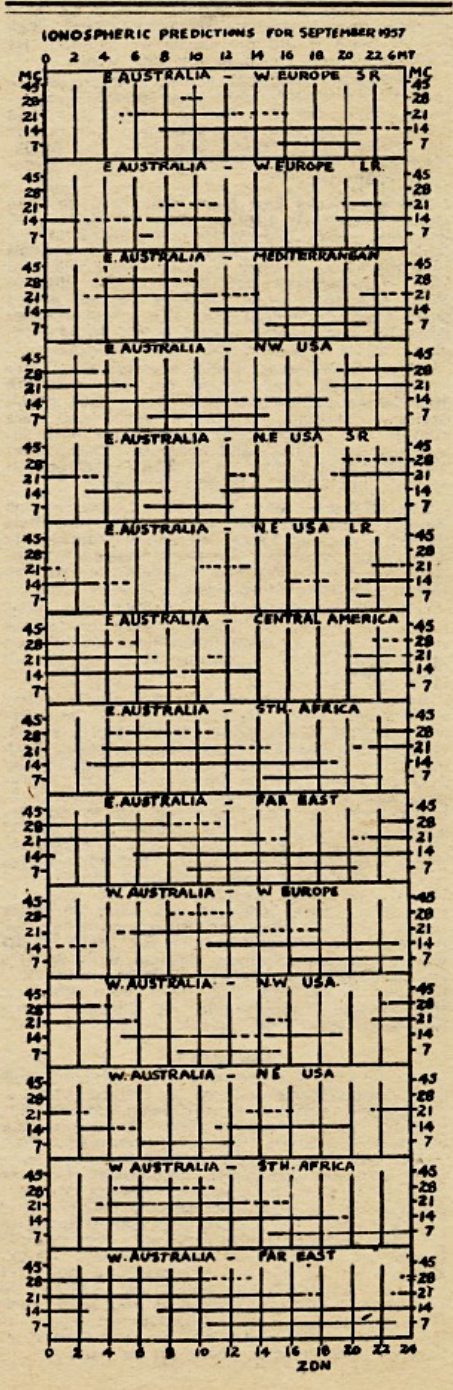
QTHs OF INTEREST

ZC5RF—Via VS2 Bureau.
XZ2TH—75 Bogyoke Street, Rangoon.
FB8XX—Via FB8BC.
TI2VA—Box 441, San Jose.
FF8BZ—Box 49, Dakar.
KP6AL—Via KP6AK or KH6 Bureau.
PX1FC—Via U.B.A. (7LZ).
ZA2ACB—Via DM2ACB (7LZ).
SP7HX—P.O. Box 424, Lodz.

QSL SITUATION

Some interesting QSLs have been received for this month, with the resultant satisfied feelings of the recipients.

2EG, who is looking after **0AB's** QSLs has received for Chas: KW6, KL7, GM3, UI8, FB8 (bringing confirmations to 44). **2AIR:** EA9DF, UB5CJ. **2AMB:** UR2AK, 4S7MR, SP1KAA, CR7CI, CN8JX, LU5AQ, LU6ES, HI8BE, VR3B, FY7YF, 9X4AX, PZ1AH, TG9AD, PY2BC, FM-7WR, FM7WP, ZD6RM (7 Mc.), 4X4HK, ZS-2EN. **2DI:** VR6TC, CE0AC. **2AQJ:** F9MS, G6CJ, HB9NB, KL7KK, KP4CC, OZ3FI, SM-3QJ, UA3BN, UA9VB, VE3PK, ZS6ALU. **2OW:** PY1HQ, LZ1KPZ, CX1BZ, UC2KAB, UA0KQB, UI8KAA, VR3B, UJ8KAA, AP2RH, VO3X. **2QL:** VP8CC, PJ2ME, FG7XC, FM7WR, FM-7WP, VU2KL, SP3HC, ZC5AL, FY7YF, W7EMY/KJ6, UA0SB, XW8AB (7, 14 and 28 Mc.), UB-5BK, UR2AR, UB5LC. **6EJ:** YA1AM, FB8ZZ, VQ6LQ, I1BNU/Trieste, 3A2BH. **7LZ:** KC4USA, YA1AM, ZS6SG, I1GFT, HP1GD, VK0AB, TG-7SQ, DU1AQ. **9XK:** KP6AL, UC2KAB, UR-2AA, ZC5AL, VR3F, ZP9AY. **BERS195:** FB-8BP, KW6CE, KZ5BB, OA4FA, UA3NT, UA-0KUA, UC2AA, VR2DB, ZD2DCP, ZE5JA, ZK-2AD, 3V8AO. **Rod de Balfour:** SP5KAB, GI3JXS.



† Frank T. Hine, 30 Abbotsford Road, Homebush, N.S.W.
* Call signs and prefixes worked.
z—zero time—G.M.T.

My thanks this month to **2EG** for the extracts of the log of **0AB, 2ACX** who keeps his beam pointed down in the direction of VP8 in the hope of finding the missing ones, **2AIR** now very content at having completed his W.A.S., **2AMB, 2AQJ** who is very keen on his s.s.b. work, **4XJ** still manages to find some DX showing on 28 Mc., **2OW** who after about 25 years has managed to reach his DX C.C., **6EJ** not so active the last month and **9XK** who is another with subdued activity. Of the s.w.l's. **BERS195** has been kept quiet this month by the 'flu bug, **Rod de Balfour** who with his own activities report sends in **7LZ** also. **WIA-L3039** still trying to get the maximum out of his receiving equipment so as not to miss anything, and finally **Chas Thorpe,** a listener from Rockhampton who went to the trouble of sending me the QTH of SP7HX.

FIFTY-SIX MEGS. AND ABOVE

(Continued from Page 13)

forgetting Leo 5ZAG who has successfully worked Ballarat lately, good luck Leo, keep up the good work. Understand the contact was made during the meteor shower in late July, so it pays to keep up with predictions on these things and gather in the advantages.

Had a very interesting note from Hughie 5BC on his doings up there, and quote verbatim from it. Conditions on the v.h.f. have been rather poor of late, with the cold weather about, but there was a high spot on 2nd July when working 3RH on 80; he asked for a check on 2 and his carrier was R5 to 6 at 1820 hours. Of course, I didn't lose any time in changing to 2. I had several contacts during the evening with 3RK, also worked 3ALZ, 3ZCN and 3ZCW. The following evening we clicked again—although Melbourne carriers were present they were not workable by phone.

Since this break through the band has been very quiet, contacts have been confined to 5MT, 3ZCW at Ouyen and 3GZ at Mildura. 3ZCW advised the other night that 3TY, who has recently been transferred to Swan Hill, will be on 2 shortly, so looks like another station for me to work up here. Also another chap to go on 2 is 3HW at Ballarat, had a check last night on his signal, was S3-4 carrier. Understand this chap has a very good set-up with his beam up on a 100 ft. tower on top of a 150 ft. hill—with better conditions his signal should be workable on phone. Incidentally, I have my 56 Mc. tx fixed up again, so if any of the chaps want a check I am available.

Thanks Hughie, it's some time since we had a run through from you and in your capacity of intermediary between VK5s (Central) and VK3s (Northern) any information like the above is useful to those of us who are trying for better things on 2.

It is hoped by next month to be able to give some details of the "Moon Watch" possible arrangements as they apply to S.A., but of course, as the time when this is now scheduled is well into 1958 there is no urgency about planning. All the same, as soon as known it will be conveyed either direct to those who have indicated willingness to co-operate or through these columns. The 108 Mc. is still the frequency so in building 144 Mc. gear it may not be a bad idea to provide for a change to 108 in the design which will save major re-building of your converter if you take the "Watch" on.—5EF.

WESTERN AUSTRALIA

The June V.h.f. Group meeting was held at Ralph 6ZAD's QTH. The attention of the meeting was taken up with the constitution of the Group, as this has taken a long time to get together. It was a welcome relief to members when the last of the business was finally passed, so that in the near future we should be a fully constituted body. Since the meeting advice has been received that through the courtesy of D.C.A. we have been granted the use of the training school lunch room for meetings. This will relieve members QTHs which have been sadly overcrowded by large attendance at meetings.

The 288 Mc. Tx Hunt on 20th July was a great success. 6ZAD being the fox, Ralph picked a good spot alongside the Swan River. The winner was Don 6HK, followed by Rollo 6BO and Dennis 6AW in that order. Syd 6SJ got in by the process of elimination with a rx that wouldn't work and Don 6ZAV struck trouble at the start when a faulty joint on the regeneration control came adrift. This was remedied in true Ham fashion—with twisted hook-up wire, only to finish up on the wrong side of the river. Well, well. Never mind, it was a good night.—6ZAV.

FEDERAL, QSL, and DIVISIONAL NOTES

FEDERAL

Fed. President: W. T. S. Mitchell, VK3UM.
Fed. Secretary: L. D. Bowie, VK3DU, Box 2611W, G.P.O., Melbourne, C.1, Vic.
Federal Councillors:
New South Wales—Don Pollard, VK2ASW.
Victoria—Dave Wardlaw, VK3ADW.
Queensland—Paul Dubois, VK4UJ.
South Australia—Gordon Bowen, VK5XU.
Western Australia—Ron Hugo, VK6KW.
Tasmania—Doug. Fisher, VK7AB.
Papua-New Guinea—Doug. Lloyd, VK9OQ.
Fed. Contest Committee: Reg. Harris, VK5RR, Secretary, Box 1234K, G.P.O., Adelaide, S.A.
QSL Bureau: R. E. Jones, VK3RJ, 23 Landale Street, Box Hill, E.11, Vic.
Awards Manager: A. G. Weynton, VK3XU, 5 York Street, Bonbeach, Vic.

NEW SOUTH WALES

President: Perc. Healy, VK2APQ.
Secretary: Ketith Woodward, VK2ZAU, Box 1734, G.P.O., Sydney.
Meeting Night: Fourth Friday of each month at Science House, Gloucester Street, Sydney.
QSL Bureau: Frank Hine, VK2QL, 30 Abbotsford Road, Homebush, N.S.W.
Zone Correspondents: North Coast and Tablelands: Noel Hanson, VK2AHH, Ryan Ave., West Kempsey; **Newcastle:** Les Sparke, VK2AOR, 18 Kahibah Rd., Highfields, via Adamstown; **Coalfields and Lakes:** H. Hawkins, VK2YL, 9 Comfort Av., Cessnock; **Western:** W. Stitt, VK2WH, "Cambijowa," Forbes; **South Coast & Southern:** E. Fisher, VK2DY, 2 Oxlade St., Warrawong; **Sth. Western:** J. W. S. Edge, VK2AJO, Wallace St., Coolamon; **Tamworth:** F. W. Fowler, VK2APF, 4 Thompson Cres., Tamworth.

VICTORIA

President: F. G. Bail, VK3YS.
Secretary: J. R. Lancaster, VK3JL.
Administrative Secretary: Mrs. May, C.O.R. House, 191 Queen St., Melbourne.
Meeting Night: First Wednesday of each month at the Radio School, Royal Melbourne Technical College.
Divisional Sub-Editor: V. M. Jones, VK3YE, 7 New St., Surrey Hills, E.10.
QSL Bureau: Inwards and Outwards—W.I.A., 191 Queen St., Melbourne, C.1, Vic.
Zone Correspondents: Western: W. J. Kinsella, VK3AKW, Magdala, Lubeck; **South Western:** W. Wines, 48 Cranley St., Warrnambool, and W. Zimmer, VK3AWZ, 70 Skene St., Newtown; **Far North Western:** M. Folie, VK3GZ, 101 Lemon Ave., Mildura; **Midlands:** R. Jonasson, VK3ND, Farnsworth St., Castlemaine; **North Eastern:** L. Eliason, VK3ALE, 72 Orr St., Shepparton; **Eastern:** J. Spark, VK3AJK, 20 Marshall Ave., Moe.

QUEENSLAND

President: Frank Bond, VK4ZM.
Secretary: W. J. Rafter, VK4PR, Box 638J, G.P.O., Brisbane.
Meeting Night: Fourth Friday in each month at the State Service Union Rooms, Elizabeth Street, Brisbane.
Divisional Sub-Editor: A. Simpson, VK4ZAE, Cr. Baden Powell and White Sts., Everton Park.
QSL Bureau: Inwards—J. Files, VK4JF, Vanda St., Buranda; Outwards—Miss Clair O'Brien, 93 Jardine St., Stafford.
Zone Correspondents: Maryborough: R. J. Glassop, VK4BG, 80 North St., Maryborough; **Townsville:** R. K. Wilson, VK4RW, Hogan St., Stuart, Townsville.

SOUTH AUSTRALIA

President: W. J. Bulling, VK5KX.
Secretary: B. W. Austin, VK5CA, Box 1234K, G.P.O., Adelaide. Telephone: UX 2621.
Meeting Night: Second Tuesday of each month at 17 Waymouth St., Adelaide.
Divisional Sub-Editor: E. C. Daw, VK5EF, P.O. Box 44, Gawler, S.A.
QSL Bureau: G. Luxton, VK5RX, 27 Belair Rd., West Mitcham, S.A. (Inwards & Outwards).

WESTERN AUSTRALIA

President: J. E. Rumble, VK6RU.
Secretary: J. R. Elms, VK6BE, Box N1002, G.P.O., Perth, W.A.
Meeting Night: Third Wednesday of month at Perth Tech. College Annexe, Mounts Bay Rd.
Divisional Sub-Editor: E. J. R. Cowles, VK6EJ, P.O. Box 11, Bencubbin, W.A.
QSL Bureau: Jim Rumble, VK6RU, Box F319, G.P.O., Perth, W.A. (Inwards and Outwards).

TASMANIA

President: F. J. Evans, VK7FJ.
Secretary: M. Hurburgh, VK7MH, Box 371B, G.P.O., Hobart.
Meeting Night: First Wednesday of each month at W.I.A. Clubroom, 147 Liverpool St., Hobart.
Divisional Sub-Editor: W. W. Watson, VK7YY, 58 Brooker Ave., Moonah.
QSL Bureau: K. A. Johnston, VK7RX, 34 Tower Rd., Newtown.
Zone Correspondents: Northern: K. J. Briggs, VK7LX, 18 Melbourne St., Launceston; **North Western:** L. S. Eddington, VK7LS, 3 Jenner St., Wynyard.

PAPUA—NEW GUINEA

President: W. C. Gee, VK9WG.
Secretary: H. S. Young, VK9AMZ, C/o. P. & T. Dept., Port Moresby.
QSL Bureau: R. Lloyd, VK9ZAL, C/o. Commonwealth Dept. Works, Port Moresby.

FEDERAL

CHANGE OF ADDRESS FOR VK9

VK9 Division advises that it has now secured a post office box and it is requested that all mail and QSL cards be sent as follows: **Post Office Box 204, Port Moresby, Papua-New Guinea.**

LIST OF PERSONS WHO QUALIFIED FOR AMATEUR OPERATOR'S CERTIFICATES

New South Wales

E. M. Bailey, Eungella, via Murwillumbah.
R. E. Birley, 101 Burns Bay Road, Lane Cove, Sydney.
*W. B. Clarke, Harriott St., Waverton.
*J. Dempsey, Farm 775, Leeton.
N. T. Durham, H.C.Hq., R.A.A.F., Penrith.
G. G. Hoyle, 32 Manners St., Tenterfield.
D. F. Kiesewetter, C/o. Snowy Mountain Authority Communication Division, Cooma.
D. A. MacAskill, 96 Vernon Ave., Eastlakes.
*B. J. Slarke, P.O. Box 8, Belligen.
J. V. Smith, Farm 937, Griffith.
*R. R. Whitelaw, 85 Church St., Croydon.

Victoria

*A. H. Anderson, 1a Little Osborne St., Williamstown, W.16.
W. A. Ferres, 26 Jeffers St., Noble Park, S.C.6.
*R. H. Hall, 6 Service St., North Essendon, W.6.
H. C. C. Hargrave, 2 Graham St., Albert Park, S.C.6.
*B. R. Harris, 49 Havelock Rd., Hawthorn, E.3.
W. R. Hempel, Kyvalley Rural Delivery.
*G. F. Jenkinson, 61 Were St., Brighton Beach.
A. Lock, Smoko, via Bright.
*T. K. Long, 32 Bladen Ave., Brunswick.
G. W. J. Mackay, 23 Gloucester Rd., Ashburton.
E. Martin, 12 Scott St., South Caulfield, S.E.8.
*J. L. Morris, 224 Burwood Rd., Burwood.
*P. J. Newdick, 14 Rippon St., Footscray, W.11.
*K. C. Oldroyd, 515 Waterdale Rd., West Heidelberg.
*D. C. Paton, 20 Scotts St., Bentleigh.
*M. A. Robinson, 43 Marina Rd., Mentone.
*H. J. Simmons, 280 Gillies St., Fairfield.
M. F. Spiller, 46 Maling Rd., Canterbury.
L. M. Stone, 18 Douglas St., Rosanna.
*T. C. Yew, 1517 Burke Rd., East Kew, E.5.

Queensland

*T. H. Barber, 73 Horston Rd., Kelvin Grove, Brisbane.
*J. L. C. Bickford, Dee St., Mt. Morgan.
B. P. Bowdler, Pasteur St., Jericho.
*R. J. Conway, P.O. Box 296, Townsville.
*A. J. Fuller, 31 Maple St., Wavell Heights, Brisbane.
J. Kelly, 40 Payne St., Inderoopilly, S.W.2.

South Australia

*B. N. Dale, 40 Ballville St., Prospect.
*R. L. Dyer, 61 Third Ave., Sefton Park, Adelaide.
R. W. C. Kopp, 9 Matilda St., Eastwood.
*K. L. Metcalf, 60 Castle St., Edwardstown.
*J. B. Mitchell, 29 Manningford Rd., Elizabeth South.
L. M. Mullins, 47 Robsart St., Parkside.
*A. C. Richner, 36 Payneham Rd., St. Peters.

Western Australia

*S. E. Brewer, 95 Edward St., Osborne Park.
J. Burrows, 140 Gloster St., Subiaco.
*R. L. Holman, 11 Yalgoo Ave., White Gum Valley, Fremantle.
*R. S. Milne, 55 View Ter., East Fremantle.
*F. M. B. Paget, Upland St., Wagin.
*G. C. Stables, 24 Park Rd., Mt. Lawley.

Tasmania

K. Minck, 56 Risdon Rd., Newtown, Hobart.
*D. A. H. Thorne, 308 Park St., New Town.

* Qualified for the Limited Certificate.

T.V. STATION OPERATOR'S CERTIFICATE OF PROFICIENCY

The Australian Broadcasting Control Board has notified the following candidates that they were successful at the examination held on 11th June, 1957, for the Television Operator's Certificate of Proficiency:

Melbourne: Russell Alan Bourne, John Alexander Garry.

Sydney: Michael John Altria, Cecil Thomas Amoore, Roy Lempriere Belstead, Donald Albert Crowley, Alfred William Culloden, Warwick Mansell Davies, Colin Melville King, Edward Noel King, Robert Keith Munnings, George Philip Pearson, Vernon Alban Sinclair, James Douglas Stewart.

The examination was conducted by a Board of Examiners comprising officers of the Australian Broadcasting Control Board, Mr. R. H. Mondell, of the Dept. of Technical Education, Sydney, and Mr. F. A. Kempson, of the Royal Melbourne Technical College.

SILENT KEY

It is with deep regret that we record the passing of:—

VK3QH—George Gurr.
Ex-VK3SW—Stan Gadsden.
VK6EL—Ernie Langenschied.

Examinations are conducted twice yearly, on the second Tuesday of June and December. Applicants who have passed any sections of the examination on a previous occasion will be exempted from those sections for a period of 12 months, that is two half-yearly examinations succeeding the passing of the sections.

The next examination will be held in Sydney and Melbourne on 10th December, 1957. Applications for this examination must be lodged with the Secretary of the Board, 497 Collins Street, Melbourne, by 15th November, 1957.

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FED. CONTEST COMMITTEE

NATIONAL FIELD DAY RULES, 1958

As for the Ross Hull and the Remembrance Day rules, these rules have been re-written to follow the standard adopted by Federal Council. For example, Rule 2 in all the contests now refers to the terms of entry into a contest and Rule 8 to the cyphers, etc.

One major change has been made and asked for adoption by **30th September, 1957.** The title of the Contest is that of "National Field Day" and does not, therefore, envisage contacts with overseas stations. In view of the emphasis now being given to C.D.E.N. and other emergency work within the Commonwealth, it was felt that no really good purpose could be served by including overseas contacts for scoring purposes.

All Contests now include a S.w.l's. Section. This Contest has been extended to bring the Rules into line with the new P.M.G. Regulations on portable operation.

Please read the Rules through carefully, with thought not only of your own participation but of those in other Divisions. Let your Federal Councillor have any comments to forward to the F.C.C. by the above date. Since the rules have been based upon recommendations received from previous years' contestants and from Federal Council at the Convention, no major alterations should be necessary.

G. M. Bowen, VK5XU, Chairman.

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FEDERAL QSL BUREAU

The Manawatu Branch of the N.Z.A.R.T., which covers the area within an approximate radius of 15 miles from Palmerston North, has instituted an Award known as "Worked All Manawatu." The rules require 12 contacts with different Manawatu Branch area stations on any or a combination of bands, made on or after 1st September, 1956. Application for Award to be in writing with a copy of logged contacts including the following details: Date,

time in G.M.T., readability and signal strength, christian names of operators of stations contacted. Applications are to be sent to ZL2HT, Mr. A. G. S. Bradfield, 70 Te Awe Awe St., Palmerston North, New Zealand.

VU2JA is the sixth call sign held by Joe Faithful in his 36 years as an active Ham, the others having been VU1HA, VS8AA, VU7AA, MP4BAF, and VU2BX. Joe has now "retired" to finish off his days at 18b Cubbon Road, Bangalore 7, India, where VU2JA is kept active. Joe worked many VK stations as MP4BAF, on Bahrain Island, and says not all contacts were QSLed by the VK operators. He would welcome those outstanding, if sent to his India QTH and will QSL himself any of the contacts for which cards have not been received. Joe used a 40w. two-stage rig at MP4BAF, coupled to a windom aerial, and worked mostly 14 Mc. c.w. As VU2JA, he seeks contacts with VK stations, using both c.w. and phone on 14, 21 and 28 Mc. bands. Info supplied by BERS195.

R. Jones, VK3RJ, Manager.

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NEW SOUTH WALES

The July meeting of the N.S.W. Division was held at Science House, Gloucester St., on Friday 26th. The meeting was the best attended for some time, 86 being present, among whom were many of the well known Amateurs who have taken an active interest in Institute affairs over the years.

The chairman was the recently elected President of the Division, Pierce Healy, 2APQ, who expressed his appreciation of the trust placed in him by being elected to that position, and indicating that the new Council will endeavour to foster the real Ham Spirit among all who are associated with Amateur Radio.

The lecture for the evening was given by Mr. R. Mondel, Supervisor of the School of Electronics and Communications. The subject, "The Importance of Impedance Matching," dealt with the following points: Mismatch of transmission lines, reflection co-efficient, standing wave ratio and power transfer, ghosting on t.v. signals.

Mr. Mondel gave a most enlightening lecture by explaining the make-up of a transmission line and formula used to calculate the power loss in transmission lines, showing how standing waves are produced and what standing wave ratio could be tolerated before severe losses became apparent. The discussion on ghosting of the t.v. picture by a mismatch in the transmission line brought many questions from members.

A hearty vote of thanks was given to Mr. Mondel for an excellent lecture.

Council were pleased to receive from the retiring Treasurer, Vince Cahill, 2VC, the offer to carry on for the next few months and have co-opted him as the seventh member of Council.

Our Engineer, Dave Duff, 2EO, has been rewarded for his efforts on the 2WI tx at Dural, from the number of reports received on the improvement Dave has made it appears that a very good signal is being radiated.

W.I.A.

SOUTH WEST. ZONE N.S.W.

FIFTH ANNUAL

CONVENTION

at **COOLAMON**

26th and 27th OCTOBER, '57

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Programme:

Saturday, 26th October—

Afternoon: 144 Mc. Tx Hunt, Sit-Down Dinner.

Evening: Amateur Hour, Films, Novelties.

Sunday, 27th October—

Morning: 144 Mc. Tx Hunts, All-Band Scramble.

Afternoon: Barbecue, Novelty Events, Auction Disposals.

★

Book Early for Accommodation

Roy Hart, 2HO, C.D.E.N. Co-ordinator, has been invited by the Director of Civil Defence to be one of the N.S.W. representatives at Macedon, Vic., in October this year. Roy will represent the N.S.W. Division at these discussions.

New members admitted at the July meeting were C. Fryer, 2NP; A. K. Hore, 2ZCH; W. E. Dixon, 2OZ, as full members; and L. E. Howard, D. F. Evans, A. Shaw, D. M. Grantley, D. W. S. Shephard, C. Foster as Associates.

HUNTER BRANCH

Fourteen members of the Branch attended the July meeting at the University of Technology, Tighes Hill. Various matters were discussed and it was unanimously decided that the Hunter Branch Field Day would be held on Labour Day week-end each year, as in the past.

The Branch President, Lionel 2CS, gave a lecture on Civil Defence as it affects Ham Radio.

Congrats to Harry 2AFA who has now only about 10 confirmations to get and 6 to work for his DX C.C. Bob 2AQR has had his Boy Scouts chasing over Mt. Sugarloaf after "flying saucers," but general opinion is that clouds are being ignited by r.f. from Bob's Tx at "Westie." Varley 2SF being congratulated on a nice drop of phone on 40 mx, real hi-fi. We don't hear much of 2DZ these days, but Johnny says he still gets on 21 Mc. at times. After a long absence, George 2AGD has his 40 mx rig going again, and up to his old standard. Treasurer Bill 2XT with Secretary Charlie 2ARV and Ernie 2FP to keep them on the straight and narrow, made a car trip to 2WI at Dural to meet new Div. Council and made some 7 Mc. mobile QSOs on way. Incidentally, Ernie 2FP with his pair of 24Gs is still working them on 10 mx but finds Southern Hemisphere DX is hard to come by. Preparing for holidays on VK4 Gold Coast, with short stay at 2XO's "Do Me," is Harold 2AHA and family. Another to leave is Assoc. Sid Daniels who is to forego his Uni. lab. for beauties (2 legged photogenic) at Cairns and Barrier Reef. Social Sec., Assoc. Gordon Sutherland, has acquired a Marconi B28 Rx and very happy with results. Dave 2BZ has been playing with t.v. antennae and his latest effort uses a copper mesh reflector which works f.b. Ron 2ASJ getting good QSOs and QSLs from Ws on 20 mx phone and c.w., a recent visitor to 2ASJ was "Bush Ranger" Ben 2ABT from Coonabarabran who stayed with brother-in-law 2ZL. Ben had misfortune to have a car accident. With car laid up for a few days, Jim 2AHT came to rescue and took Ben around. Most startling news for years was that Bill "Rembrandt" 2ZL has become a DX hound. Bill laid aside his paint brush and worked nothing less than HP3 on 40 mx phone, also received a s.w.l. card from OK.

The next meeting of the Branch will be held at the University of Technology at 8 p.m. on 13th September.

SOUTH WESTERN ZONE

Main activity here seems to be on 144 Mc. as John 2ZDM at Hillston and Jim 2ZBP at Illaboo have more or less nightly skeds with 2AJO. Both are talking 56 Mc., Jim 2ZBP has a tx working on that band on 56.475 Mc. Your scribe had the pleasure of his first 56 Mc. QSO on 31st July with Keith 2ZAA at Tumut, 2ZAA's freq. 57 Mc., 2AJO's 56.8 Mc. Many thanks for coming on Keith.

Don 2RS at Albury has been keeping skeds on 144 with VK3 and VK5 with fair success. Don is building bigger and better beams I hear, to offset opposition he is getting from 2QD, 2EU and 2AEM.

Stewart 2PL at Griffith had a short spell in hospital, nothing serious, used the Type 3 on c.w., said the curtain rod made a good antenna. John Smith now has full call, 2NV. Congrats John. John is active on 40 with AT5. 2AXD Ted also heard, still with gravel voice modulation (sit down, Ted). Lyn 2AQE at Wagga has been heard on 40.

Things are well in hand for this year's Convention at Coolamon. Programmes are being printed, the hall is reserved, and the caterers advised.

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VICTORIA

On the last meeting night, 7th August, 1957, our President was laid aside with the 'flu, which is very prevalent at the moment, and Gordon 3TF, our immediate past President, took the chair. Every good wish for a speedy recovery Fred.

The meeting was well attended despite the wet miserable night and it was easy to see that the elements hold no terrors when a lecture on home brew t.v. receivers is in the wind.

Providing you were there early enough to miss the crowd, the first thing to greet the eye on entering the lecture theatre was a Loran c.r.o. giving forth a very creditable t.v. performance, a thing quite foreign to its normal role in life. However, as the crowd rolled up, the c.r.o. disappeared under a sea of heads and the performance was from outside appearances more akin to bees around a honey pot. Needless to say the acting President had his work cut out even starting the meeting.

The lecture was placed at the beginning of the meeting, a very wise precaution in this case, and we were soon on the way to hearing the ins and outs of the construction of a television receiver from disposals equipment.

With much foresight the lecturer had decided to launch his subject from the beginning to cater for the novice and the expert alike and by means of a block diagram he very skillfully steered his audience through the usual maze of t.v. circuitry with the greatest of ease. In fact, thanks to his artistry, those of us who had not previously studied the subject at length were saved much travel along blind alleys and many gallons of midnight oil.

In addition to covering the theoretical side of his subject in much detail the speaker gave many worthwhile tips covering the selection of components and he also pointed out the short cuts available for adjusting the equipment.

Questions came thick and fast, both during the lecture and at question time, and all Loran c.r.o's. which have enjoyed their last few years of life on the shelf or peacefully under the bench can now look forward to a proper trouncing.

Someone expressed the hope that the speaker would some day present the information he has gathered in an article for the magazine but Graham was non-committal. It is rather a tall order but would be very acceptable nonetheless.

At the conclusion of the lecture Col Churnside (3WQ) passed a very commendable vote of thanks to Graham (3ZAA) for his lecture to us on this subject and the vote was carried with a hearty round of applause.

A short break followed the lecture and on resuming the meeting the acting President called for a minute's silence in memory of those members who had joined the ranks of the Silent Keys since our last meeting.

It was announced that letters of appreciation had been received in connection with the slow morse transmissions provided by the Victorian Division. This was very gratifying to the team responsible as the silent audience very seldom takes voice. Thanks chaps. By the way, you intending Hams don't forget that ZKF still transmits morse daily at varying speeds on 3436 and 6885 Kc. using m.c.w. The transmissions commence at 1630 E.A.S.T. and conclude at 1845 hours E.A.S.T. It is also interesting to note that the VK5 Division has a slow morse session on about 3520 Kc. This session starts at 2130 E.A.S.T. on Sundays only.

New members admitted: Full Members—A. R. Jarman (3AJX); Associates—K. H. Alexander and R. A. H. Blake. Visitors to the meeting were Messrs. Harding, Clarke, Vaile, Chamberlain, Mudie and Winkelkotter.

Since Les 3JH moved to Nunawading he has not been active owing to re-building. But a 3JH has been operating on 21 Mc. Amateurs will assist Les if they report and d.f. this pirate's signal.

The next meeting will be held at the Radio Theatre, Royal Melbourne Technical College, on the **11th September** when the speaker will be an Army Signals Officer. He will speak on s.s. techniques, teletype, etc., in communication work. There may be a film and it is understood that arrangements for a visit to the transmitting station at Diggers Rest will be announced at the meeting. It should be noted that the September meeting is a week later than usual owing to the School holidays.

EASTERN ZONE

The 80 mx Sunday night zone hook-up is now being patronised more with 3AAV and 3AJK showing up, but no sign of the Bairnsdale-Sale area boys, except 3AIT who is very active. Graham 3QZ was heard on 40 mx the other Sunday morning, he also hopes to be on 2 mx in about two or three months' time. Gordon 3TH is quite active now whilst the cows are in their minimum cycle, he is operating both 2 and 80 mx. Gordon has just completed testing his new 2 mx cubical quad yagi, giving good results. He will pull down his 3 element yagi and replace it with the cubical quad. George 3ZCG now has his 32 element 2 mx beam in the air and is obtaining excellent results from it.

Jack 3AJK has now pulled down his tx to build it up again as an all-band rig. The Eastern Zone first monthly fox hunt was a great success, held at Traralgon, Sunday afternoon, July 28. Ian 3AAV and Graham 3QZ were fox, and put on a great show for the three hounds. Geoff Orton, Ron Gordon, and 3TH were the winners, with George 3ZCG, Reg 3ZCR and Jack 3AJK, Terry second. Stan 3ZAB and Cliff 3AIT stayed back as control station, Stan and his XYL put on a very enjoyable afternoon tea. Our next 2 mx fox hunt will be held at Sale, on the last Sunday in August, and all are welcomed to join in the fun with or without receivers.

FAR NORTH WESTERN ZONE

There is a prospect of increase in activity on 144 Mc. with 3MF returning to active Hamming on this band. Harry is at present collecting gear for this band. 3ZCW and 3GZ are on most nights on 144 Mc. working 5BC in Berri, and 3ZCW has been working 3TY in Swan Hill. 3GZ has managed to get contact with 3NN and 3ATN. Charles 3TI is overhauling his 2 mx gear in readiness for the summer season. At week-ends 3TI operated on 40 and is putting out a good signal. Pleased to hear John 3AKF has his rig working and hear him on 80 mx most nights. Nice signal John. Bill 3AJU has erected a vee beam and busy working DX on 20 mx. The old Type 3 is sure getting results. We will shortly be losing 3AFP who will be taking up residence in Ballarat. Jim is working hard on his triple conversion rx and has also t.v.i. proofed his tx. Noel 3AUG operates occasionally on 20 and 40 mx but is busy building xtal locked converters to work in front of a MN26 rx. 3FC in Ouyen working the odd DX on 20 and 40 mx bands. Fred, our Associate, hopes to sit for the next examination.

Last month we had a gathering of the boys in Mildura when 5BC, 3FC and 3ZCW arrived one Saturday afternoon from Ouyen. They visited some of the gang in Mildura and generally had a good afternoon. 3SN returns to the district from time to time and it is nice to see his cheerful face and hear some of the news of Hams in other parts of the State.

NORTH EASTERN ZONE

There is very little to report from this zone again due to complete lack of interest. The same reliable few still appear on the zone hook-up on 3.7 Mc. at 8 p.m. each Wednesday. If this time and frequency does not suit members who were unable to attend the last convention, please make a suggestion of a new time or band.

Allen 3AEO is now placed in portion of the house, but washing days may mean QRT. Les 3ALE has completed his re-build and a very nice job too. Heard Jim 3JK on 21 Mc. working VK0CJ. T.v. has claimed the interest of many members. The Shepparton area has several new associates and the coming examination for A.O.C.P. is being awaited. If the numbers keep increasing in this area the chances of forming a radio club seem very bright. Q multipliers are being talked about since 3AGG built his, looks as if a few rx's will be added to. Before next month, hope to have more news from the Eastern section of the Zone. How about it chaps?

SOUTH WESTERN ZONE

The weekly hook-ups on Thursday evening at 8 p.m. continue to obtain a good roll-up of zone members. Recent reports are that 3ADV is constructing an electric organ to keep him away from t.v. He is seeking burnt out speaker transformers in any quantity—so chaps please oblige. Neil 3HG has passed his 214th country in DX and this is a record in our zone hard to equal. At a recent tx hunt the Geelong members tested their gear to great advantage. Bill 3AWZ hid the gear at night and Vic Clarke, K. Mills, J. Barber, and G. Woods had a pleasant time finding the tx. Bill Wines is in good spirits and we hope he will have another attempt for the ticket.

John 3ARJ is still working the DX bands with good success. At a recent grid dip oscillator meeting in Geelong, members showed off their exhibits and demonstrated to viewers the faults in design and the uses of same. The Geelong members are co-operating in an emergency capacity with the local Amateur Motor Cycle Club at a cross country trial this month. See you at the S.W. Zone Convention in November?

MIDLANDS ZONE

The notes start this month on a sad note following upon Bill 3AMH's move from Bendigo. Whether his present predicament—possibly a more suitable phrase could be found, but as an old married man I doubt it—is due to the absence of the restraining influence of 3ACN, or his impending visit to VE land, is difficult to say; but either way Bill looks like going the way of all good men. His YL has promised to become an XYL and festivities to celebrate the occasion were held in Ballarat. Neville 3ACN was in attendance with Joy, who was shown the wonders of that carpet of wires mentioned last month. As it is now too late to do anything else, allow me to congratulate you Bill, and assure you that the marital state is not as bad as it is so oft cracked up to be.

It is believed that 3IZ has acquired an expensive pastime by blowing up 6146s and other bits and pieces. The score is not known at present, but rumour has it that certain valve

OBITUARY

STANLEY W. GADSDEN

Stan Gadsden, who passed away on 25th July, 1957, at the age of 70 years, was well known to the older Amateurs and to many broadcast listeners. He held the call sign VK3SW up until the early 30's and will be remembered for his phone transmissions on the old 200 metre band between 1925 and 1930. Stan had been a member of the Council of the Victorian Division and was responsible, in conjunction with the late Howard Love and other members of the Council, for the establishment of the old Aero Club transmitter VK3WU.

Upon his retirement from the Council he donated a perpetual trophy to the Victorian Division for "outstanding radio achievement or for service to the Institute." The current holder of the trophy is VK3RN and a previous holder was VK3HX. In both cases the trophy was awarded in recognition of their service on the Editorial staff of "Amateur Radio."

GEORGE HENRY GURR—VK3QH

George Gurr, VK3QH, who passed away on 31st July, was first licenced about 1933 as VK5GO. As an aircraft engineer with Westralian Airways at Parafield, George was well known to many VK5s for his willingness to help new chaps in the game. After leaving South Australia he became an aircraft surveyor with D.C.A. in New Guinea and returned to Victoria about 1939. He was again licenced in 1946, under the call sign VK3QH. George leaves a widow to whom we extend our sincere sympathy.

manufacturers are quite happy about the sales return as a result. 3SV has made a heterodyne frequency meter and has ambitions to follow with an f.m. frequency meter. This desire is or was thwarted by the absence of a wobbulator unit so if anyone can help—need more be said?

During the last hook-up your correspondent attended, Roy 3ND used his system of Rothman modulation running 7-15w. to a 6V6 807 combination with 1 volt on a carbon mike for sound. Whilst it would never have done for the Duke sir, it still did a remarkable job although the extra volt supplied later did help. 3ARS has been on 15 mx without much success, but in that he is not alone. Give old Sol a little time to settle down and we might all have some success on that band, which is desirable for its lack of kilowatt QRM.

Although t.v. has had many a curse heaped on its head by erstwhile DX'ers, it has been the means of bestowing blessings on Col 3FO, who has been busy installing many monsters around and about the fair town of Maldon. Visitors to that town may see an aerial which is obliquely polarised being somewhat off horizontal both ways, but which apparently works very well. Purely accidental I might add, but most great discoveries have arrived that way. If a spare moment offers itself Col delves into 40 mx with a small 6 x 8 inch rig. Any errors in this description may be attributed to journalistic license and a bad memory. Neville 3ACN is experiencing troubles with carrier on 20 mx s.s.b., having far too much left, but by the time these notes are printed that trouble should be cured. The home-brew slicer for reception is working very well, and certainly takes a lot of hard work out of making sense of s.s.b. signals.

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QUEENSLAND

Since the last "A.R." notes went to press, we have had the usual Council and general meetings as well as the monthly hidden tx hunt.

At the Council meeting, which in the past has always been very well attended, Aussie 4TN presented a detailed statement, in true accountancy style, of the Convention Fund. After all payments were made, we found that we were a couple of db. down. This, Council members thought, was reasonable as finances and expenses were well over the century mark! We had thirty pounds in the fund when we started. This was made up of donations, specially given, and from the sale of gear given by members to the Institute! Our convention fund now stands at twenty-eight db. All donations for next year's convention, which will be a bigger, better and brighter convention, would, of course, be gratefully accepted. Aussie, having first hand information, showed us also how we could, in future, clip our expenses so that next year's convention would show a slight profit, or at least break even financially! There were not many large accounts Aussie pointed out, but when a large number of small bills have to be tallied up, the expenses have a habit of rapidly mounting up! Anyway, Aussie, many thanks from Council and Hams generally for your co-operation and for the many hours spent in organising the whole show! It was really appreciated.

In an attempt to learn from our mistakes, and to make the job of Treasurer less complicated, Jim 4OB put forward the scheme of creating a separate Savings Bank account and labelling it "Convention Fund." After listening to the many reasons, which you would have heard had you attended the last general meeting, the members felt, provided the funds for this account were made up of donations and from the sale of gear given to the Institute, that the idea was sound. To clarify the position we now have three accounts. No. 1 is a working account and is usually small. No. 2 is a savings account into which we frequently delve for the purchase of disposals gear. This account is usually a very healthy one. No. 3 account would then be our Convention Fund.

Our emergency deal is still very much alive, and the scheduled date for our first run is 20th August or, if things don't pan out, then 27th August. However, boys we have been talking about this day for a long time, so if you haven't your gear out and going by this, then be it on your own heads.

There is to be another emergency meeting immediately following the next Council meeting and it should prove to be historic, for the final plans will be cast for our Amateur C.D.E.N. We wish the emergency boys every success in their venture and we hope that Hams in Queensland will extend their co-operation (within the meaning of the Emergency Regulations in VK4) to make Amateur C.D.E.N. a valuable service to the community.

A recommendation that Council discuss the future pattern of meetings was made by 4ZAE. A considerable amount of time was frequently used up in the discussion of matters not relevant to actual business under discussion. Consequently the meetings often progress deep into the night, which naturally leaves any following lecturer with a restricted amount of time. There are many other issues which could be discussed perhaps by the counterpart of a public relations committee and so on. Revision of the conduct of the general meetings, perhaps streamlining would be a better phrase, would then place greater accent on social activities, etc.

A gentle reminder about the R.D. and the Ross Hull Contests. The R.D. Contest will be well over when this goes to press, but it is hoped that this year will see a better response than the thirty logs that were submitted last year. Don't leave it until too late to get cracking for the Ross Hull Contest! Don't stay off the air thinking that you are giving the other fellow a chance! Chances are that he will be doing the self-same thing.

Good hook-ups on Sunday mornings with the country boys, too. The round table is getting bigger as each week goes by. Unfortunately, 4XP, who has been supplying slow morse for the boys will be moving to Charleville and will not be available for some time to come. Many people who took advantage of the morse transmissions on 80 will miss the regular fist of 4XP. Pounding that key was truly appreciated!

However, boys, don't despair, Bert hopes to have 4WI ready for morse transmissions very shortly. He has been putting a lot of work into the station's rig and although it has taken quite some time for him to get things into shape, the station equipment will be versatile and reliable. Good work, Bert.

Ron 4ZAN asked Council if the Postmaster General's Department could be approached in an effort to speed up the releasing of examination results and the granting of call signs. Some of the boys had to wait quite some considerable time after the examinations before they could get cracking, and as a result, the first full bloom of enthusiasm has started to wear off! We have all been in the same boat at one time or another, but Council will see what can be done for future examination candidates.

To date we have had no news concerning the Federal Convention held last Easter. A request for advice of the results was sent, but we anticipate that it will be some time yet before the full report is available.

At the last general meeting we were fortunate to have the services of three Hams Vince 4VJ, Aussie 4TN and John 4FP. They all described the preliminary horrors that beset budding mobile Hams. However, the boys made the subject interesting enough to claim a few more fans. A recording was made of the lecture and it is hoped to present at a future date some articles for "Amateur Radio." A start has been made, so how about it boys? You don't have to be a literary genious to write an article; if you have some interesting circuit, etc., you've tried, jot it down (readable at least) and we can get the diagrams put into presentable form for publication. They have to be a certain size, etc. Please address all correspondence through Box 638J, G.P.O. However, reverting to the subject, most of the lads were intrigued by the novel methods employed in getting a compact converter to work multi-band. Very clever application there, Vince. Thanks to you Aussie, Vince and John for a very entertaining and informative evening.

The last V.h.f. Tx Hunt was hidden by Jack 4JO and a crew of helpers on top of White's Hill. A perfect spot, an S9 signal all the way; most deceptive! It was won by Les 4LM and his XYL in some 27 minutes, with John 4FP hot on their heels. Once there, several willing workers started to boil the billy and it wasn't long before the boys made short work of the cakes and sandwiches provided by Mrs. 4JO, Mrs. 4LM and Mrs. L. Hill. Thank you ladies, it rounded off the evening beautifully.

MARYBOROUGH

4DJ still building his rack and panel rig. Is heard DXing on 14 Mc. and is often on 40 mx. Graham has bought a new receiver.

Arch 4CB building a table-top rig with a Geloso v.f.o. driving a 6146 with pi-coupled output. Looks like that 10 mx quad, sitting on the ground for months, will soon be up on the 60 ft. tower.

4BG will be combining his two beams in a tri-band beam and meantime is still rising early for those elusive new countries.

TOWNSVILLE

Quite a successful meeting was held at Graham's 4BX and it was nice to see the boys coming along, after previous difficulties in obtaining a quorum for the meetings. It was decided to purchase suitable disposals gear to the value of £25 for the benefit of members who will reimburse the club for same plus a very small percentage to help along the financial resources of the club. After disposing of the usual business, the members settled down to hear a lecture by Bob 4RW on "Electrocution." How easy in the Ham shack. Notes were placed on the blackboard to show just how the different currents affect the body and their probable effects. Great stress was given to the condition which is a sure killer—"heart fibrellation." It was also stressed that artificial respiration be performed in all cases of electric shock. After the lecture numerous questions were answered and some members gave reports on just what had happened to them when coming in contact with voltage in the shack. Ted 4EJ then showed many coloured slides which he had taken around Magnetic Island. Ed 4WH, the Secretary, also brought along slides of the Barrier Reef.

Two new members were admitted to the club, namely Bob Conway, 4ZAZ and Nick Watling 4WT. Eric 4EL is still striving to work the DX and landed a FS7 on French St. Martin, nice work. John 4DD, Allan 4BE and Ted 4EJ trying hard to beat each other for an S point on 10 mx working into England. Quite surprised to hear a come back to the fold after a long retirement was Len 4GD. Now that the gum has again taken hold Len, what about coming to the meetings. Arthur 4FE on the Island of Dusky Maidens and flowing palms takes along a noggin when trolling for fish, no reports on how it is used to keep them biting.

Bob 4MF is going on a motor holiday down south and promises to call on the various stations he has worked, while Bob 4RW hopes to be in Rockhampton first week of December, so have all your gear nice and handy and not locked away. He then hopes to tour the Tablelands going as far north as Cooktown. KG4AN posted off 30 QSL cards to VK Bureau on 11st July. Hope mine is amongst them. Only two new countries worked this month at this shack were HI7LMQ (Dominica) and UC2KAB in the U.S.S.R.

Allan 4PS still in trouble getting a converter to work on 144 Mc. This band should get a hiding in the district very shortly after the three new transceivers arrive for 4LR, 4EJ and 4DK, who were successful in the recent ballot for them.

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SOUTH AUSTRALIA

For some time now your Council and particularly the Programme Organiser have been wondering if the "tender" night was as popular as it was earlier, and whether it might be an idea to drop it off the list for a while. The attendance at last month's effort for that kind of programme gave the complete answer, for not only was the crowd a near record, but the gear offering was good in quantity and variety and the bidding brisk. It is apparent that there is still a good list of items about that can change hands to advantage—so your Programme Director will see to it that the ever-popular programme is repeated with the same frequency.

Our thanks go to Brian 5CA, who so ably stood in for Dougal 5BY, and Norm Coltman for their efforts to keep the ball rolling. It's not an easy job, but those two (correction three) fellows have the right approach and keep the ball rolling.

I suppose there was some normal business conducted at the meeting, but it was not of great import, so was not given more time than just to cover the essentials.

A recent Sunday morning session from 5WI outlined a few advantages of membership and facilities available to members which could well be repeated here. For instance, there are various instruments for loan, in some cases, or for use at the Custodian's QTH, Doc 5MD, a c.r.o., and a mod. osc. are included, and means for checking any valve you might be suspicious of. Access is available to a library of various books of interest, including up-to-date copies of call books, local and overseas, so don't go short of an address for that odd special QSL card. There are technical committees available for consultation of any problem you may have—be it to do with some gear you are planning, or b.c.i., or the like, this committee comprises members familiar with such problems and are there for you to call on for aid. And then finally make use of this magazine to express your views on the hobby, don't be backward in coming forward, and help spread the news of any development you make, a new gadget you design, by doing an article on it for the magazine. Help the Institute by using it and what it has to offer, and at the same time contribute when you can.

An outstanding item of interest of recent times was the splendid and efficient aid provided by two prominent members at Victor Harbour, namely Pat 5KM and Ron 5KN, who between them set up a base station and a mobile one at the scene of search and rescue operations at Waitpinga when two brothers lost their lives whilst searching the coastline. Pat and Ron, both prominent in affairs at Victor Harbour, were approached by the Police and Bushfire Net to set up such gear and throughout the operations were able to afford efficient ground to ground and ground to air communications, covering the whole set-up. The Authorities aided by providing phone lines as required and granting authority for the operation on the allotted channels.

It is certainly pleasing to know that our members spontaneously provided this service, which in operation met with high regard from those associated with the rescue. Congratulations to them both for bringing Amateur Radio to the notice of the general public in such a favourable light, and for their own strenuous efforts.

Congratulations Jim 5JK on your appointment as C.D.E.N. Co-ordinator for S.A. The above paragraph will give you some idea of how the boys will help Jim and just what can be expected. We may not all be as well set up as 5KM and 5KN were, but at least we can prepare and keep abreast of movements to be ready if called on.

Congratulations also due to Bill 5ZAX on his appointment as Assistant Secretary of the Division. It will prove interesting Bill and you won't regret the experience.

As well as the usual rounds of locals worked this month, Peter 5RB bales up on 40 with a very fine signal, an ex-VK9 who now lives at Modbury, and reverting back to the meeting some new faces seen in 5EU, 5JS, 5DS, and 5HA. OK fellows, but wear your name cards, it's a good means of introduction for many of us know the voices only, and like to meet up in person.

A recent contact with Col 5RO brought out the information that he is playing with d.s.b. Heard any funny sigs lately? Ken 5KC also going to give the same idea a go soon, who is going to be first up on d.s.b.?

Ron from 5WC has put the mike aside for spanners lately, working on a bomb—four wheeled variety—don't know if it incorporates any mobile gear, but can't think that would be left out somehow. The 5WC boys are still active and looking for contacts in spite of the continued high noise level there.

Ever heard of Lloyd 5OK on 40 mx phone? Well, if you try you will, very good signal too. John 5KX has strange visitors in his shack some Sundays, one Wal 5DF was there recently and John couldn't reach the audio control fast enough to keep Wal's 100w. voice in tab.

Both Len 5OC and Stewart 5MS heard recently working DX in great style on 20. Len W-wise and Stewart G-way. Understand Stewart has erected a new skywire (the 17th), what is it this time? Erg 5KU had a bout of the 'flu which kept him quiet for a while, but on resuming operations celebrated the return by blowing up his main power supply, so is still silent. Bram 5AB not on much—harmonic not an announcer yet. Claude 5CH has picked out himself a 35 ft. tower which together with a new chariot will keep him busy for a while and may curtail hamming somewhat. Don't let them get you down Claude.

In the course of nosing about on business, yes I still work for a living, came across a certain VK5 working a complicated machine tool at a place where gears are cut, not far from a large brewery, and believe it or not there was clear evidence of either excess late hour DX or power failure at shaving time. Mind you it was only Tuesday and the stubs were about quarter wave on 576, should be worth seeing by Friday. Keep me informed on that type please Charlie.

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WESTERN AUSTRALIA

At the July meeting of the W.A. Division Mr. R. W. Boggis, the President of W.A. Astronomical Society, lectured on the part to be played by his Society during the International Geophysical Year, and the ways in which the Institute can assist in the programme.

There is not much to report this month. Apart from the usual annual overhaul of gear prior to the R.D. Contest, portable and mobile operation at week-ends is still very popular. The No. 11 sets have been giving good results, and 6JG has shown what can be done with a 101, really "going to town" with an excellent 2w. phone signal. Nice work Ted!

6TH was working portable from Collie with a 122. After a long spell QRT, 6AH popped up on 40 mx with a Type A and a few watts, but has since got the big rig going again and promises to be more active on the bands.

6FD got his new modulator going f.b., then went down with 'flu, but is about once more. 6TL has been experimenting with a ZL special and working into N.Z. and Africa on 20 mx. Both he and 6JG prefer the folded dipole version.

The c.w. stalwarts, 6DJ, 6UF, 6GA, 6BE and 6EJ have been joined by a newcomer 6AJ, whose old call sign was G3JJX. We were glad to welcome Jeff at the Institute meetings, and on the bands his fist is a treat to copy, as one would expect from an euthusiastic member of the "Tops C.W. Club."

80 mx is improving, signals from Eastern Australia, Tasmania and New Zealand all being worked at surprising strength on phone.

Up to the end of July, the Sunday morning broadcast from 6WI has given good coverage on 40 mx, but it may be necessary to put it out on 80 mx soon, so roll up with reports after the news as we want to reach all members.

Frank and John Hill spent a week-end with 6EJ, and were surprised how well their father 6AH came through on 40 mx from Wiluna. They were taking a well earned holiday, after having attended a farmers' course at Muresk, and before returning to the "wide-open spaces."

VK6 Readers—please do not forget to fill in the form attached to the July Bulletin concerning C.D.E.N., and post it off to 6MK.

OBITUARY

ERNIE LANGENSCHIED, VK6EL

Ernie Langenschied, VK6EL, of Geraldton, W.A., passed away on 18th July. Ernie obtained his ticket round about 1937, and was very active in the metropolitan area on 40 metres for local and 10 metre DX. He had a lot of friends in Europe whom he used to contact on 10 metres. In 1948 he moved to Geraldton, and did quite a lot of Amateur work. He had not been heard very much during the last few years. He leaves a wife and two teen-age children, to whom our sympathy is extended.

TASMANIA

Hobart's first 144 Mc. fox hunt at night was a busy sort of show, wherein we spent an hour chasing reflections from Mt. Wellington, with passengers briefed to keep watch for 7LE's Wolseley. Perhaps the most consistent signal was heard by Bob 7OM, closely followed around the place by another competitor in an Austin van. No one caught the fox until the aforesaid van came home, with the old fox himself at the wheel. No mistake was evident, however, in the way we stood-in afterwards on various bits of singed animal around the fires (this is not an oblique reference to any particular person!), and there were many returns to Mrs. Edwards' brew of coffee.

Fred 7FC gave the July meeting a preview of some high voltage carrier line techniques which are being put into use by the Hydro-Electric Commission.

Support is apparent from many parts of the State for an early start on some practical training for C.D. work, initially using home stations and introducing portables as they become available. Subject to P.M.G. approval it is proposed to exchange batches of dummy traffic in nets as arranged by Co-ordinator 7OM, in a way which will permit an element of competition based upon accuracy and transit times. It is hoped with the idea of competition to preserve interest in the job, while building up a working organisation of trained operators who can accept emergency traffic as a matter of course.

With a remarkably mild winter already slipping by, there are tentative suggestions for a hamfest at Lake St. Clair, where a lot of fun was had last year setting up the works to handle the Olympic message. This could well become an annual event. If a firm date can be fixed far enough ahead, perhaps some of you Interstate chaps would care to hand the Cadillac over to Customs and be in it? Come in something else, because they're still building that drive-on ferry.

NORTH WEST ZONE

Our Annual General Meeting is over for another year, and our new President is Sid 7SF. A worthy choice as Sid has done a fine job as Secretary. In Sid's place we have Max Ives, an Associate who should keep things moving. Max also has a For Sale and Wanted to Buy Book, so contact him for those odd items.

Dennis 7DR still retains the bank book and seems to pursue a policy of all income and no expenditure.

Two Vice-Presidents were also elected, to wit Ken 7AI and Jim 7JO. Their possible use depends on how late the President is.

Ellis 7WA was re-elected QSL Manager, subject to his acceptance.

As we had to be off the premises by the hour of 11 o'clock, the proprietors provided supper and we had the usual auction, which was a No. 11 set—in pieces—amongst the other items. Ted 7EJ was auctioneer, as usual, and we closed on time.

Associate members were well represented and displayed their usual lively interest in the proceedings.

HAMADS

1/- per line, minimum 3/-.

Advertisements under this heading will only be accepted from Institute Members who desire to dispose of equipment which is their own personal property. Copy must be received by 8th of the month, and remittance must accompany advertisement. Calculation of cost is based on an average of six words a line. Dealers' advertisements not accepted in this column.

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4.	7,000 — 7,300	0.33
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BUILT-IN CRYSTAL CALIBRATOR. The crystal calibrator provides marker points every 100 Kc/s. Positive corrections due to any slight circuit variation are easily made by the use of this calibrator and trimmer condenser.

AUDIO FILTER. Incorporated in the "888" is an audio filter, peaking at 1,000 cycles and having a bandwidth of 100 cycles for c.w. reception.

MONITORING. With Stand-by Switch "off", the receiver is de-sensitised but not fully muted, enabling c.w. and telephony monitoring of local transmission. Stand-by sensitivity is adjustable.

ELECTRICAL PERFORMANCE. Sensitivity throughout is better than 3 microvolts for a 20 db. signal-to-noise ratio (50 milliwatts output, 30% modulation); absolute sensitivity on c.w. is better than 0.5 microvolts.

Selectivity is variable from 30 db. to 60 db. down, 5 Kc/s. off resonance. With audio filter in circuit, a signal 250 cycles off resonance is attenuated 32 db.

Output power exceeds 2.5 watts into a 2.5 ohm load. Image ratio better than 35 db. at 30 Mc/s. and higher on other bands.

AERIAL INPUT. Input impedance, approximately 75 ohms balanced or unbalanced. An aerial trimmer permits optimum results.

OUTPUT CIRCUITS. Terminals at the rear take a speaker with impedance of 2.5 ohms; a panel jack is provided for high resistance headphones.

OTHER FEATURES. A rear socket takes the plug of Eddystone Cat. No. 669 "S" Meter; another permits use of vibrator power pack.

EDDYSTONE "888" Receivers are obtainable from all Eddystone Distributors. All radio receivers are subject to severe import restrictions, and supply is dependent upon import licence availability.

A FULLY DESCRIPTIVE BOOKLET AVAILABLE UPON REQUEST.

Amateur Price: £261/2/- (including Sales Tax £41/-/3)

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